PASSAIC VALLEY WATER COMMISSION
1525 MAIN AVENUE • P.O. BOX 230
CLIFTON, NEW JERSEY 07011 • (201) 340-4300
CLIFTON FAX # 772-4198 • LITTLE FALLS FAX # 890-5723

July 7, 1992

N.J.D.E.P.&E.
Bureau of Safe Drinking Water
401 E. State Street
CN 029
Trenton, N.J. 08625-0029

Att: Mr. William Dietze

Dear Mr. Dietze:

Enclosed are the results of the first 1992 lead and copper sampling. The water quality parameters are also included. If you have any questions about these results, please do not hesitate to call.

Thank you.

Very truly yours,

Linda Tatro

Linda Tatro
Laboratory Manager

LT:gis
Enc.

LOC TYPE	DESCRIPTION	TIER
A	Lead Service Lines	1
B	Single Family Structures with Copper Pipe & Lead Solder installed after 1982	1
C	Building & Multifamily Residences with Copper Pipes & Lead Solder installed after 1982	2
D	Building & Multifamily Residences containing Lead Pipes or Service Lines	2
E	Single Family Structures that contain Copper Pipe with Lead Solder installed before 1983	3
F	Other	3

I certify that each first draw sample collected by the water system is one-liter in volume and, to the best of my knowledge, has stood motionless in the service line, or in the interior plumbing of a sample site, for at least six hours; and if residents collected the samples, I certify that each tap sample collected by the residents was taken after the water system informed them of proper sampling procedures specified in 141.86(b)(2).

SIGNATURE Linda Tatro

PRINT NAME LINDA TATRO

TITLE LABORATORY MANAGER

DATE JULY 1, 1992

TELEPHONE NO.(201) 890-2499

Exemption 6

New Jersey Department of Environmental Protection and Energy
Bureau of Safe Drinking Water
CN 029, Trenton, N.J. 08625-0029
(609) 292-5550

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

System Name Passaic Valley Water Commission
Address PO Box 198 PWS ID# 1 6 0 5 0 0 2
City Little Falls Laboratory ID# 1 6 0 4 7
State N.J. Zip 07424 Laboratory Name Passaic Valley Water Comm

Number of Distribution Tap Samples Required 25 *Number Taken* 23
Number of Points of Entry Samples Required 1 *Number Taken* 2

Sample No. 1 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	39		3·2·92
1925 - pH	X	7.4	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho/cm	X	302	120.1	↓
1929 - ALKALINITY		48	310.1	↓
**1018 - CALCIUM (dosage mg/L ___)		83.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 2 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD				
1022 - COPPER				
1996 - TEMPERATURE °F	X	42		3·2·92
1925 - pH	X	7.6	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho/cm	X	300	120.1	↓
1929 - ALKALINITY		42	310.1	↓
**1018 - CALCIUM (dosage mg/L ___)		22.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap
** Indicate finished water concentration and dosage, if applicable.
Form prepared by: X Owner/Operator or X Laboratory Phone No. (201) 890-2499

I certify that this water sample was collected and analyzed in accordance with approved procedures established by the New Jersey Department of Environmental Protection and Energy from the location described above.

Linda Tatro — Linda Tatro — 7 - 1 - 92
Print Name — Signature — Date

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 3 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	43		3.2.92
1925 - pH	X	7.8	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	282	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1018 - CALCIUM (dosage mg/L ___)		20.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 4 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	48		3.2.92
1925 - pH	X	7.8	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	265	120.1	↓
1929 - ALKALINITY		40	310.1	↓
**1018 - CALCIUM (dosage mg/L ___)		20.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 5 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	41		3.2.92
1925 - pH	X	7.2	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	357	120.1	↓
1929 - ALKALINITY		46	310.1	↓
**1018 - CALCIUM (dosage mg/L ___)		25.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 6 Collection Date 3 - 4 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	49		3.4.92
1925 - pH	X	7.1	150.1	↓
1084 - CONDUCTIVITY @ 25° C uMho /cm	X	395	120.1	↓
1929 - ALKALINITY		52	310.1	↓
**1018 - CALCIUM (dosage mg/L)		27.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 7 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	50		3.4.92
1925 - pH	X	7.5	150.1	↓
1084 - CONDUCTIVITY @ 25° C uMho /cm	X	297	120.1	↓
1929 - ALKALINITY		46	310.1	↓
**1018 - CALCIUM (dosage mg/L)		22.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 8 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	56		3.4.92
1925 - pH	X	7.6	150.1	↓
1084 - CONDUCTIVITY @ 25° C uMho /cm	X	298	120.1	↓
1929 - ALKALINITY		52	310.1	↓
**1018 - CALCIUM (dosage mg/L)		21.6	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 9 Collection Date 3 - 4 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X			3.4.92
1925 - pH	X	7.5	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	296	120.1	↓
1929 - ALKALINITY		46	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		20.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 10 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	50		3.4.92
1925 - pH	X	7.6	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	295	120.1	↓
1929 - ALKALINITY		46	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		22.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 11 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	49		3.4.92
1925 - pH	X	7.6	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	301	120.1	↓
1929 - ALKALINITY		46	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		22.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM
LEAD & COPPER RULE

WQ

Sample No. 12 Collection Date 3 - 4 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	50		3.4.92
1925 - pH	X	7.4	150.1	
1084 - CONDUCTIVITY @ 25° C uMho /cm	X	345	120.1	
1929 - ALKALINITY		48	310.1	
**1016 - CALCIUM (dosage mg/L)		24.0	215.2	
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 13 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	44		3.4.92
1925 - pH	X	7.2	150.1	
1084 - CONDUCTIVITY @ 25° C uMho /cm	X	391	120.1	
1929 - ALKALINITY		52	310.1	
**1016 - CALCIUM (dosage mg/L)		25.6	215.2	
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 14 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	60		3.4.92
1925 - pH	X	7.4	150.1	
1084 - CONDUCTIVITY @ 25° C uMho /cm	X	318	120.1	
1929 - ALKALINITY		42	310.1	
**1016 - CALCIUM (dosage mg/L)		22.4	215.2	
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap
** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 15 Collection Date 3 - 4 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	52		3.4.92
1925 - pH	X	7.4	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	370	120.1	↓
1929 - ALKALINITY		52	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		24.0	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 16 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	48		3.4.92
1925 - pH	X	7.2	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	416	120.1	↓
1929 - ALKALINITY		56	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		27.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 17 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	48		3.4.92
1925 - pH	X	7.4	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	336	120.1	↓
1929 - ALKALINITY		50	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		23.6	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 18 Collection Date 3 - 4 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	46		3.4.92
1925 - pH	X	7.3	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	391	120.1	↓
1929 - ALKALINITY		52	310.1	↓
**1018 - CALCIUM (dosage mg/L)		25.6	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 19 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	52		3.4.92
1925 - pH	X	7.4	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	319	120.1	↓
1929 - ALKALINITY		46	310.1	↓
**1018 - CALCIUM (dosage mg/L)		21.6	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 20 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	46		3.4.92
1925 - pH	X	7.3	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	392	120.1	↓
1929 - ALKALINITY		52	310.1	↓
**1018 - CALCIUM (dosage mg/L)		25.6	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 21 Collection Date 3 - 4 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	52		3·4·92
1925 - pH	X	7.5	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	314	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		20.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 22 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	42		3·4·92
1925 - pH	X	6.8	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	505	120.1	↓
1929 - ALKALINITY		50	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		244	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 23 Collection Date 3 - 4 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	43		3·4·92
1925 - pH	X	7.6	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	306	120.1	↓
1929 - ALKALINITY		46	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		22.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

New Jersey Department of Environmental Protection and Energy
Bureau of Safe Drinking Water
CN 029, Trenton, N.J. 08625-0029
(609) 292-5550

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

System Name Passaic Valley Water Commission
Address PO Box 198 PWS ID# 1 6 0 5 0 0 2
City Little Falls Laboratory ID# 1 6 0 4 7
State N.J. Zip 07424 Laboratory Name Passaic Valley Water Comm.
Number of Distribution Tap Samples Required 25 *Number Taken* 26
Number of Points of Entry Samples Required 1 *Number Taken* 5

Sample No. 1 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	44		3·2·92
1925 - pH	X	7.3	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho/cm	X	350	120.1	
1929 - ALKALINITY		48	310.1	
**1016 - CALCIUM (dosage mg/L ___)		26.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 2 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD				
1022 - COPPER				
1998 - TEMPERATURE °F	X	49		3·2·92
1925 - pH	X	7.6	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho/cm	X	294	120.1	
1929 - ALKALINITY		42	310.1	
**1016 - CALCIUM (dosage mg/L ___)		20.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap
** Indicate finished water concentration and dosage, if applicable.
Form prepared by: X Owner/Operator or X Laboratory Phone No. (201) 890-2499

I certify that this water sample was collected and analyzed in accordance with approved procedures established by the New Jersey Department of Environmental Protection and Energy from the location described above.

Linda Tatro — Print Name
Linda Tatro — Signature
7 - 1 - 92 — Date

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 3 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	44		3.2.92
1925 - pH	X	7.9	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	278	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L)		21.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 4 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	47		3.2.92
1925 - pH	X	7.6	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	281	120.1	↓
1929 - ALKALINITY		40	310.1	↓
**1016 - CALCIUM (dosage mg/L)		21.6	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 5 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	45		3.2.92
1925 - pH	X	7.7	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	280	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L)		21.6	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 6 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	40		3.2.92
1925 - pH	X	7.7	150.1	
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	360	120.1	
1929 - ALKALINITY		46	310.1	
**1016 - CALCIUM (dosage mg/L)		24.8	215.2	
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 7 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	50		3.2.92
1925 - pH	X	7.8	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	280	120.1	
1929 - ALKALINITY		44	310.1	
**1016 - CALCIUM (dosage mg/L)		21.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 8 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	44		3.2.92
1925 - pH	X	7.6	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	281	120.1	
1929 - ALKALINITY		44	310.1	
**1016 - CALCIUM (dosage mg/L)		20.0	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 9 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	48		3.2.92
1925 - pH	X	7.60	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	281	120.1	↓
1929 - ALKALINITY		42	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		21.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 10 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	41		3.2.92
1925 - pH	X	7.8	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	263	120.1	↓
1929 - ALKALINITY		40	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		20.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 11 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	58		3.2.92
1925 - pH	X	7.9	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	281	120.1	↓
1929 - ALKALINITY		42	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		21.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 12 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	44		3.2.92
1925 - pH	X	7.7	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	278	120.1	↓
1929 - ALKALINITY		42	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		22.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 13 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	44		3.2.92
1925 - pH	X	7.6	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	284	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		22.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 14 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	48		3.2.92
1925 - pH	X	7.9	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	283	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		22.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap
** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 15 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	48		3.2.92
1925 - pH	X	7.9	150.1	
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	284	120.1	
1929 - ALKALINITY		42	310.1	
**1016 - CALCIUM (dosage mg/L ___)		22.8	215.2	
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 16 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	54		3.2.92
1925 - pH	X	7.8	150.1	
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	286	120.1	
1929 - ALKALINITY		40	310.1	
**1016 - CALCIUM (dosage mg/L ___)		24.0	215.2	
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 17 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	48		3.2.92
1925 - pH	X	7.8	150.1	
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	245	120.1	
1929 - ALKALINITY		42	310.1	
**1016 - CALCIUM (dosage mg/L ___)		22.0	215.2	
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 18 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	46		3.2.92
1925 - pH	X	7.9	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	280	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		21.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 19 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	52		3.2.92
1925 - pH	X	7.9	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	280	120.1	↓
1929 - ALKALINITY		42	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		22.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 20 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	51		3.2.92
1925 - pH	X	7.9	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	283	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		21.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 21 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	46		3·2·92
1925 - pH	X	8.0	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	277	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L)		21.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 22 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	40		3·2·92
1925 - pH	X	7.5	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	362	120.1	↓
1929 - ALKALINITY		46	310.1	↓
**1016 - CALCIUM (dosage mg/L)		26.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 23 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	42		3·2·92
1925 - pH	X	7.5	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	361	120.2	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L)		26.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 24 Collection Date 3 - 2 - 92 Sample Type* D
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD. (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	46		3·2·92
1925 - pH	X	7.7	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	282	120.1	↓
1929 - ALKALINITY		42	310.1	↓
**1016 - CALCIUM (dosage mg/L)		21.2	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 25 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	43		3·2·92
1925 - pH	X	7.7	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	280	120.2	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L)		21.6	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

Sample No. 26 Collection Date 3 - 2 - 92 Sample Type* D
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1998 - TEMPERATURE °F	X	42		3·2·92
1925 - pH	X	7.5	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	304	120.2	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L)		24.0	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L)				
**1049 - SILICA (dosage mg/L)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 27 Collection Date 3 - 2 - 92 Sample Type* P
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	44		3·2·92
1925 - pH	X	7.6	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	305	120.1	↓
1929 - ALKALINITY		42	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		24.0	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 28 Collection Date 3 - 2 - 92 Sample Type* P
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	44		3.2.92
1925 - pH	X	7.4	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	343	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		24.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 29 Collection Date 3 - 2 - 92 Sample Type* P
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (<)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	42		3.2.92
1925 - pH	X	7.4	150.1	↓
1064 - CONDUCTIVITY @ 25° C uMho /cm	X	364	120.1	↓
1929 - ALKALINITY		44	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		24.8	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

WATER QUALITY PARAMETERS ANALYSIS INPUT FORM

LEAD & COPPER RULE

WQ

Sample No. 30 Collection Date 3 - 2 - 92 Sample Type* P
Location: [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	44		3.2.92
1925 - pH	X	7.3	150.1	↓
1084 - CONDUCTIVITY @ 25° C uMho /cm	X	330	120.1	↓
1929 - ALKALINITY		48	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		21.6	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. 31 Collection Date 3 - 2 - 92 Sample Type* P
Location [redacted] Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X	50		3.2.92
1925 - pH	X	7.8	150.1	↓
1084 - CONDUCTIVITY @ 25° C uMho /cm	X	288	120.1	↓
1929 - ALKALINITY		42	310.1	↓
**1016 - CALCIUM (dosage mg/L ___)		21.4	215.2	↓
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

Sample No. ____ Collection Date ____ - ____ - ____ Sample Type* ____
Location _____ Facility ID# (if applicable) _____

Contaminant ID and Name	Analysis Results Sign (≤)	Analysis Results mg/L	Analysis Method #	Analysis Date
1030 - LEAD (Entry point, only if required)				
1022 - COPPER (Entry point, only if required)				
1996 - TEMPERATURE °F	X			
1925 - pH	X			
1084 - CONDUCTIVITY @ 25° C uMho /cm	X			
1929 - ALKALINITY				
**1016 - CALCIUM (dosage mg/L ___)				
**1044 - ORTHOPHOSPHATE (dosage mg/L ___)				
**1049 - SILICA (dosage mg/L ___)				

* SAMPLE TYPE: P - Point of Entry to Distribution
D - Distribution Tap

** Indicate finished water concentration and dosage, if applicable.

Exemption 6

New Jersey Department of Environmental Protection and Energy
Bureau of Safe Drinking Water
CN 029, Trenton, N.J. 08625-0029
(609) 292-5550

COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission

CU

Address PO Box 198 PWS ID# 1 6 0 5 0 0 2

City Little Falls Laboratory ID# 1 6 0 4 7

State N.J. Zip 07424 Laboratory Name Passaic Valley Water Comm

Number of Distribution Tap Samples Required 100 Number Taken 115

Multiply Number Taken by 0.9, Enter Here 103.5 (This is the 90th Percentile)

Copper Result at the Location of the Above Sample Number* 0.219 mg/L - Action Level = 1.3 mg/

Copper Action Level Exceeded, Check Here ☐

* IF TAKING 5 SAMPLES PER PERIOD, AVERAGE THE HIGHEST AND 2nd HIGHEST CONCENTRATIONS TO DETERMINE 90th PERCENTILE.

List the results of all copper samples taken during the six-month monitoring period in ascending order from the sample with the lowest concentration to the sample with the highest concentration.

Sample Number	Location	Loc Type	Sample Date	Sign (<)	Result	Analysis Method	Analysis Date
1	[redacted]	A	3/13/92		.006	220.2	3/19/92
2	[redacted]	A	3/3/92		.007		3/6/92
3	[redacted]	B	3/5/92		.008		3/24/92
4	[redacted]	B	3/4/92		.010		3/19/92
5	[redacted]	A	3/3/92		.011		3/6/92
6	[redacted]	A	3/5/92		.011		3/9/92
7	[redacted]	A	3/5/92		.012		3/9/92
8	[redacted]	A	3/3/92		.014		3/6/92
9	[redacted]	B	3/3/92		.015		3/6/92
10	[redacted]	A	3/5/92		.016		3/9/92
11	[redacted]	A	3/3/92		.018		3/6/92
12	[redacted]	A	3/3/92		.019		3/6/92
13	[redacted]	B	3/3/92		.020		3/6/92
14	[redacted]	B	3/4/92		.022		3/19/92
15	[redacted]	A	3/5/92		.022		3/19/92
16	[redacted]	B	3/6/92		.023		3/24/92
17	[redacted]	A	3/6/92		.023		3/24/92
18	[redacted]	A	3/5/92		.024		3/9/92
19	[redacted]	B	3/5/92		.024		3/24/92
20	[redacted]	B	3/6/92		.026		3/24/92

SEE REVERSE SIDE FOR LOCATION TYPES AND CERTIFICATIONS.
NOTE: THIS FORM IS UNACCEPTABLE WITHOUT THE APPROPRIATE AUTHORIZED SIGNATURE.

Exemption 6

CONTINUATION SHEET - COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# 1 6 0 5 0 0 2 CU

Sample Number	Location	Loc Type	Sample Date	Sign (<)	Result	Analysis Method	Analysis Date
21		A	3/3/92		.038	220.2	3/6/92
22		A	3/3/92		.029		3/6/92
23		A	3/5/92		.031		3/24/92
24		A	3/13/92		.033		3/19/92
25		A	3/3/92		.034		3/6/92
26		B	3/5/92		.034		3/9/92
27		A	3/13/92		.034		3/19/92
28		A	3/6/92		.036		3/24/92
29		A	3/3/92		.037		3/6/92
30		A	3/5/92		.038		3/19/92
31		A	3/5/92		.039		3/19/92
32		B	3/3/92		.040		3/6/92
33		B	3/3/92		.040		3/6/92
34		A	3/3/72		.040		3/6/92
35		A	3/5/92		.041		3/9/92
36		B	3/5/92		.041		3/9/92
37		A	3/5/92		.042		3/9/92
38		B	3/5/92		.043		3/9/92
39		B	3/3/92		.043		3/6/92
40		B	3/5/92		.043		3/9/92
41		A	3/3/92		.044		3/6/92
42		B	3/3/92		.045		3/6/92
43		B	3/5/92		.046		3/9/92
44		B	3/5/92		.047		3/19/92
45		A	3/3/92		.049		3/6/92
46		B	3/3/92		.049		3/6/92
47		A	3/5/92		.049		3/9/92
48		A	3/3/92		.053		3/6/92
49		A	3/5/92		.054		3/9/92
50		B	3/5/92		.054		3/24/92
51		A	3/6/92		.055		3/24/92
52		A	3/3/92		.057		3/6/92
53		B	3/5/92		.057		3/24/92
54		B	3/5/92		.060		3/19/92
55		A	3/13/92		.062		3/19/92
56		B	3/9/92		.064		3/9/92
57		B	3/6/92		.065		3/24/92
58		A	3/3/92		.068		3/6/92
59		B	3/5/92		.069		3/9/92
60		A	3/5/92		.070	↓	3/19/92

Exemption 6

CONTINUATION SHEET - COPPER ANALYSIS INPUT FORM Page 3 of 4

System Name Passaic Valley Water Commission PWS ID# 1 6 0 5 0 0 2 CU

Sample Number	Location	Loc Type	Sample Date	Sign (<)	Result	Analysis Method	Analysis Date
61		B	3/5/92		.073	220.7	3/9/92
62		B	3/16/92		.073		3/24/92
63		A	3/5/92		.074		3/9/92
64		B	3/5/92		.074		3/9/92
65		B	3/5/92		.074		3/19/92
66		B	3/5/92		.076		3/9/92
67		B	3/5/92		.080		3/24/92
68		B	3/5/92		.081		3/19/92
69		B	3/5/92		.082		3/19/92
70		B	3/5/92		.082		3/9/92
71		B	3/5/92		.085		3/19/92
72		B	3/3/92		.091		3/6/92
73		B	3/5/92		.091		3/19/92
74		B	3/5/92		.094		3/9/92
75		A	3/3/92		.096		3/6/92
76		B	3/5/92		.097		3/9/92
77		A	3/3/92		.097		3/6/92
78		A	3/5/92		.097		3/9/92
79		B	3/3/92		.097		3/6/92
80		A	3/5/92		.100		3/9/92
81		A	3/5/92		.102		3/19/92
82		B	3/5/92		.103		3/24/92
83		B	3/3/92		.109		3/6/92
84		B	3/5/92		.109		3/9/92
85		B	3/5/92		.111		3/9/92
86		A	3/3/92		.116		3/6/92
87		B	3/5/92		.118		3/9/92
88		A	3/13/92		.122		3/19/92
89		B	3/5/92		.129		3/9/92
90		B	3/5/92		.138		3/19/92
91		B	3/5/92		.145		3/19/92
92		A	3/3/92		.147		3/6/92
93		B	3/5/92		.156		3/19/92
94		A	3/3/92		.161		3/6/92
95		B	3/6/92		.173		3/24/92
96		B	3/3/92		.176		3/16/92
97		B	3/3/92		.180		3/16/92
98		B	3/3/92		.183		3/16/92
99		B	3/5/92		.186		3/24/92
100		B	3/3/92		.186	↓	3/16/92

Exemption 6

CONTINUATION SHEET - COPPER ANALYSIS INPUT FORM Page 4 of 4

System Name Passaic Valley Water Commission PWS ID# 1 6 0 5 0 0 2 CU

Sample Number	Location	Loc Type	Sample Date	Sign (<)	Result	Analysis Method	Analysis Date
101		A	3/5/92		.192	2202	3/19/92
102		B	3/5/92		.198		3/19/92
103		B	3/6/92		.204		3/24/92
104		A	3/5/92		.219		3/24/92
105		B	3/5/92		.224		3/24/92
106		B	3/5/92		.224		3/24/92
107		B	3/5/92		.228		3/24/92
108		B	3/5/92		.244		3/9/92
109		B	3/5/92		.245		3/9/92
110		B	3/5/92		.270		3/24/92
111		B	3/5/92		.279		3/19/92
112		A	3/9/92		.346		3/24/92
113		B	3/4/92		.348		3/19/92
114		A	3/13/92		.388		3/19/92
115		B	3/5/92		.540	↓	3/19/92

Exemption 6

New Jersey Department of Environmental Protection and Energy
Bureau of Safe Drinking Water
CN 029, Trenton, N.J. 08625-0029
(609) 292-5550

LEAD ANALYSIS INPUT FORM

PB

System Name Passaic Valley Water Commission
Address PO Box 198 PWS ID# 1 6 0 5 0 0 2
City Little Falls Laboratory ID# 1 6 0 4 7
State New Jersey Zip 07424 Laboratory Name Passaic Valley Water Comm
Number of Distribution Tap Samples Required 100 Number Taken 115
Multiply Number Taken by 0.9, Enter Here 103.5 (This is the 90th Percentile)
Lead Result at the Location of the Above Sample Number* 1024 mg/L - Action Level = 0.015 mg/L
Lead Action Level Exceeded, Check Here ☑
* IF TAKING 5 SAMPLES PER PERIOD, AVERAGE THE HIGHEST AND 2nd HIGHEST CONCENTRATIONS TO DETERMINE 90th PERCENTILE.

List the results of all lead samples taken during the six-month monitoring period in ascending order from the sample with the lowest concentration to the sample with the highest concentration.

Sample Number	Location	Loc Type	Sample Date	Sign (<)	Result	Analysis Method	Analysis Date
1		A	3/3/92	<	.002	239.2	3/16/92
2		A	3/3/92	<	.002		3/16/92
3		A	3/3/92	<	.002		3/16/92
4		A	3/3/92	<	.002		3/16/92
5		A	3/3/92	<	.002		3/16/92
6		A	3/5/92	<	.002		3/11/92
7		A	3/5/92	<	.002		3/11/92
8		A	3/5/92	<	.002		3/11/92
9		A	3/5/92	<	.002		3/11/92
10		A	3/13/92	<	.002		3/24/92
11		B	3/5/92	<	.002		3/11/92
12		B	3/5/92	<	.002		3/11/92
13		B	3/5/92	<	.002		3/11/92
14		B	3/5/92	<	.002		3/24/92
15		B	3/3/92	<	.002		3/16/92
16		B	3/3/92	<	.002		3/16/92
17		B	3/3/92	<	.002		3/16/92
18		B	3/3/92	<	.002		3/16/92
19		B	3/3/92	<	.002		3/16/92
20	[redacted]	B	3/3/92	<	.002	↓	3/16/92

SEE REVERSE SIDE FOR LOCATION TYPES AND CERTIFICATIONS.
NOTE: THIS FORM IS UNACCEPTABLE WITHOUT THE APPROPRIATE AUTHORIZED SIGNATURE.

Exemption 6

CONTINUATION SHEET - LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# 1 6 0 5 0 0 2

PB

Sample Number	Location	Loc Type	Sample Date	Sign (<)	Result	Analysis Method	Analysis Date
21		B	3/3/92	<	.002	239.2	3/16/92
22		B	3/4/92	<	.002		3/18/92
23		B	3/5/92	<	.002		3/11/92
24		B	3/5/92	<	.002		3/11/92
25		B	3/5/92	<	.002		3/11/92
26		B	3/5/92	<	.002		3/11/92
27		B	3/16/92	<	.002		3/24/92
28		A	3/3/92		.002		3/16/92
29		A	3/3/92		.002		3/16/92
30		A	3/5/92		.002		3/18/92
31		A	3/5/92		.002		3/18/92
32		A	3/5/92		.002		3/24/92
33		B	3/5/92		.002		3/18/92
34		B	3/5/92		.002		3/24/92
35		A	3/5/92		.003		3/11/92
36		B	3/6/92		.003		3/24/92
37		A	3/13/92		.003		3/19/92
38		B	3/16/92		.003		3/24/92
39		B	3/3/92		.003		3/16/92
40		B	3/5/92		.003		3/11/92
41		B	3/5/92		.003		3/11/92
42		B	3/5/92		.003		3/11/92
43		B	3/5/92		.003		3/11/92
44		A	3/5/92		.004		3/11/92
45		A	3/5/92		.004		3/11/92
46		B	3/5/92		.004		3/18/92
47		B	3/5/92		.004		3/24/92
48		B	3/5/92		.004		3/24/92
49		B	3/6/92		.004		3/24/92
50		B	3/3/92		.004		3/16/92
51		A	3/3/92		.005		3/16/92
52		A	3/6/92		.005		3/16/92
53		A	3/13/92		.005		3/19/92
54		B	3/4/92		.005		3/18/92
55		B	3/5/92		.005		3/18/92
56		B	3/5/92		.005		3/24/92
57		B	3/5/92		.005		3/24/92
58		B	3/5/92		.005		3/11/92
59		A	3/5/92		.006		3/24/92
60		B	3/5/92		.006	↓	3/24/92

Exemption 6

CONTINUATION SHEET - LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# 1 6 0 5 0 0 2

PB

Sample Number	Location	Loc Type	Sample Date	Sign (<)	Result	Analysis Method	Analysis Date
61		A	3/13/92		.006	239.2	3/18/92
62		B	3/5/92		.006		3/18/92
63		B	3/5/92		.006		3/18/92
64		B	3/5/92		.006		3/24/92
65		B	3/3/92		.006		3/6/92
66		B	3/5/92		.006		3/11/92
67		A	3/3/92		.007		3/6/92
68		A	3/5/92		.007		3/24/92
69		B	3/6/92		.007		3/24/92
70		B	3/5/92		.007		3/11/92
71		A	3/3/92		.008		3/6/92
72		A	3/3/92		.008		3/6/92
73		A	3/3/92		.008		3/6/92
74		A	3/5/92		.008		3/11/92
75		A	3/5/92		.008		3/11/92
76		A	3/13/92		.008		3/18/92
77		A	3/13/92		.008		3/18/92
78		B	3/5/92		.008		3/11/92
79		A	3/3/92		.009		3/6/92
80		A	3/5/92		.009		3/11/92
81		B	3/4/92		.009		3/18/92
82		B	3/5/92		.009		3/18/92
83		A	3/3/92		.010		3/6/92
84		B	3/5/92		.010		3/24/92
85		B	3/6/92		.010		3/24/92
86		A	3/5/92		.011		3/11/92
87		A	3/6/92		.011		3/24/92
88		B	3/5/92		.011		3/18/92
89		B	3/5/92		.011		3/18/92
90		B	3/5/92		.011		3/18/92
91		B	3/3/92		.011		3/6/92
92		B	3/3/92		.011		3/6/92
93		B	3/5/92		.012		3/11/92
94		A	3/5/92		.014		3/11/92
95		A	3/3/92		.015		3/6/92
96		A	3/3/92		.015		3/6/92
97		A	3/3/92		.015		3/6/92
98		B	3/5/92		.015		3/18/92
99		A	3/3/92		.018		3/6/92
100		B	3/5/92		.020	↓	3/18/92

Exemption 6

CONTINUATION SHEET - LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# 1 6 0 5 0 0 2

PB

Sample Number	Location	Loc Type	Sample Date	Sign (<)	Result	Analysis Method	Analysis Date
101		A	3/3/92		.021	239.2	3/6/92
102		B	3/5/92		.021		3/24/92
103		B	3/5/92		.022		3/11/92
104		B	3/5/92		.024		3/18/92
105		A	3/5/92		.024		3/18/92
106		A	3/6/92		.025		3/24/92
107		A	3/9/92		.026		3/24/92
108		B	3/5/92		.030		3/11/92
109		A	3/5/92		.033		3/18/92
110		A	3/3/92		.038		3/6/92
111		A	3/3/92		.040		3/6/92
112		B	3/5/92		.043		3/18/92
113		B	3/3/92		.046		3/6/92
114		B	3/5/92		.052		3/11/92
115		A	3/5/92		.051	↓	3/18/92

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection
Water Supply Element
CN 426
Trenton, New Jersey 08625-0426
Tel# 609-292-7219
Fax# 609-292-1654

Robert C. Shinn, Jr.
Commissioner

August 7, 1996

Philip E. Roosa
Passaic Valley Water Commission
1525 Main Ave., P.O. Box 230
Clifton, New Jersey 07011

Dear Mr. Roosa:

Re: Passaic Valley Water Commission
PWS-ID No.: 1605002
Project # CCS-94-022
Corrosion Control Study

Bureau of Safe Drinking Water (Bureau) staff has reviewed the report entitled "Evaluation of Corrosion Control Alternatives - Passaic Valley Water Commission, Little Falls, New Jersey", prepared by Malcolm Pirnie Inc. in July 1994, and subsequent correspondence. The Bureau agrees with the study's conclusion that the increased pH in PVWC's system since the first two monitoring rounds were complete in October 1992 has made a significant reduction in lead levels at customer's taps.

The Bureau still has concerns about THM levels, and expects PVWC to investigate disinfection alternatives in light of the Enhanced Surface Water Treatment Rule (ESWTR) and the Disinfectant/Disinfectant By-Product (D/DBP) Rule. It is our understanding that this investigation will begin soon, and that PVWC will keep the Bureau informed as to its progress.

The following is the timetable for follow-up monitoring and reporting of the PVWC's lead levels.

1. Today - State approves corrosion control study. The corrosion control treatment is considered as already installed.

2. 31 December 1996 - first follow-up monitoring period ends. Sampling should be performed as follows and the results submitted to the Bureau:

   a. Lead and Copper Analysis Input Forms (enclosed) including results from samples from at least one hundred taps, as in the initial monitoring period. These samples should be taken once during each period. A reasonable effort should be made to obtain samples from the same locations as in the initial monitoring period.

b. Water Quality Parameters Analysis Input Forms (enclosed) including results from:

I) samples taken at representative distribution system sites. These samples should be taken from two (2) taps twice each monitoring period and should include the following parameters: pH and alkalinity.

ii) samples taken at the points of entry. These samples should be taken biweekly and include pH, alkalinity and chemical feed rates.

Be sure to distinguish between point of entry (P) and distribution system (D) under Sample Type. Also, please provide the location and facility ID number for each point of entry. Facility ID numbers should correspond to those given in the enclosed Source File Listing for your system. Please advise the Bureau of any discrepancies in the Source File Listing.

3. 30 June 1997 - second follow-up monitoring period ends. Results from the period and a recommendation for optimal corrosion control treatment including ranges for optimal water quality parameters (pH and alkalinity) should be submitted to the Bureau within 30 days of the end of the monitoring period.

4. 1 September 1997- Bureau reviews optimal corrosion control treatment recommendation and approves and/or designates the final water quality parameter ranges. These ranges will become part of Passaic Valley's general monitoring requirements.

Should you have any questions regarding the above, please contact Vincent Monaco or Mark A. Hubal of the Bureau at (609) 292-5550.

Very Truly Yours,

Barker Hamill, Chief
Bureau of Safe Drinking Water

c: Northern Bureau of Water and Hazardous Waste Enforcement
Mark A. Hubal, BSDW

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection
Water Supply Element
CN 426
Trenton, New Jersey 08625-0426
Tel# 609-292-7219
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Very Truly Yours,

Barker Hamill, Chief
Bureau of Safe Drinking Water

c: Northern Bureau of Water and Hazardous Waste Enforcement
Mark A. Hubal, BSDW

MALCOLM
PIRNIE

EVALUATION OF
CORROSION CONTROL ALTERNATIVES

PASSAIC VALLEY WATER COMMISSION
LITTLE FALLS, NEW JERSEY

JULY 1994

MALCOLM PIRNIE, INC.

One International Boulevard
Mahwah, New Jersey 07495-0018

2 Corporate Park Drive, P.O. Box 751
White Plains, New York 10602-0751

1707-022

MALCOLM PIRNIE

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MALCOLM PIRNIE

EXECUTIVE SUMMARY

Background

The Passaic Valley Water Commission (PVWC) supplies water to retail customers in the cities of Passaic, Paterson, and Clifton, and the Borough of Prospect Park. PVWC also supplies wholesale water to numerous communities, private water companies, commercial, and industrial customers.

PVWC uses three major sources of supply - the Passaic river, the Pompton river, and the Wanaque reservoir treated supply. There are also three types of finished water supplies - the Passaic supply, the Wanaque supply, and a blend of the two supplies (viz. the mixed supply). PVWC's service receives the mixed supply and contains three open finished water reservoirs, namely, the Great Notch, New Street, and Levine reservoirs.

PVWC and its wholesale purchasers are required to comply with the June 1991 Lead and Copper Rule. The objective of the Rule is to reduce the exposure of consumers to these metals. The source of lead in drinking water is usually lead service lines, lead-tin solder, or brass faucets. Therefore, requirements of the Rule are oriented towards ensuring that water systems provide water that has low corrosivity towards lead and copper.

As required by the Rule, PVWC and its wholesale purchasers conducted initial monitoring of vulnerable high-risk homes in 1992. The results of the 1992 monitoring indicated that PVWC and many of its wholesale purchasers did not comply with the lead action level, while all systems complied with the action level for copper.

The Lead and Copper Rule requires all water systems to identify and install optimum corrosion control treatment. This report recommends the treatment alternative for optimum corrosion control for PVWC's system based on (a) a desk-top evaluation of corrosion control alternatives and (b) the results of full-scale corrosion testing of carbonate passivation for lead corrosion control.

Three treatment approaches generally exist for controlling lead corrosion (1) carbonate passivation, (2) carbonate precipitation, and (3) corrosion inhibitors. Carbonate passivation is a process in which carbonate compounds present in water react with lead to form a passivation film at the pipe surface. Carbonate precipitation involves the precipitation of a calcium carbonate barrier that prevents lead leaching. Corrosion inhibitors utilize passivation to provide protection against corrosion by forming insoluble compounds with lead at the pipe surface.

Findings

PVWC is responsible for implementing optimal corrosion control treatment in its retail areas in Passaic, Clifton, Paterson, and Prospect Park. The retail service areas receive PVWC's mixed supply and contain three open finished water reservoirs. The presence of open finished water reservoirs precludes the use of two important classes of corrosion inhibitors - phosphate-based inhibitors and silicates - for the mixed supply. Both phosphates and silicates contribute nutrients for the growth of algae, which could result in high algal counts in the reservoirs. The excessive growth of algae in the reservoirs would cause serious water quality problems related to clarity, taste, and odor in PVWC's service areas. The remaining treatment alternatives include carbonate precipitation and carbonate passivation. In general, precipitated calcium carbonate films do not uniformly coat household plumbing and reliably mitigate lead leaching. Therefore, the most promising treatment alternative for PVWC's mixed supply is carbonate passivation. PVWC has conducted full-scale optimization testing of carbonate passivation for 18 months.

Carbonate passivation can be achieved by pH adjustment. In October 1992, PVWC increased the pH of its Passaic supply from 7.1 to 7.8, resulting in a median distribution system pH of approximately 8.0. This step was taken to improve corrosion control treatment after PVWC exceeded the lead action levels in the two rounds of 1992 monitoring. Since October 1992, PVWC has conducted two additional rounds of monitoring for lead from targeted homes. The third and fourth round of monitoring was conducted in October 1993 and March 1994, respectively. The 90th percentile lead levels for the third and fourth rounds were 13 and 10 μg/L respectively, which are under the lead action level of 15 μg/L. The results of full-scale testing are presented in Table ES-1 and Figure ES-1. It is evident that PVWC has significantly reduced the corrosion of lead in its service areas by increasing the pH of the mixed supply to approximately 8.0.

The Passaic supply currently serves industrial customers. PVWC will also provide the Passaic supply to NJ-American's water system through a 36" pipeline, the Morris County pipeline. NJ-American successfully uses zinc orthophosphate treatment for corrosion control in its water system. Maintaining the pH of the Passaic supply at approximately 7.8 will ensure compatibility with corrosion control practices in NJ-American's water system. Additionally, PVWC is likely to add orthophosphates to the portion of the Passaic supply transported through the Morris County pipeline, as part of its service to NJ-American.

TABLE ES-1

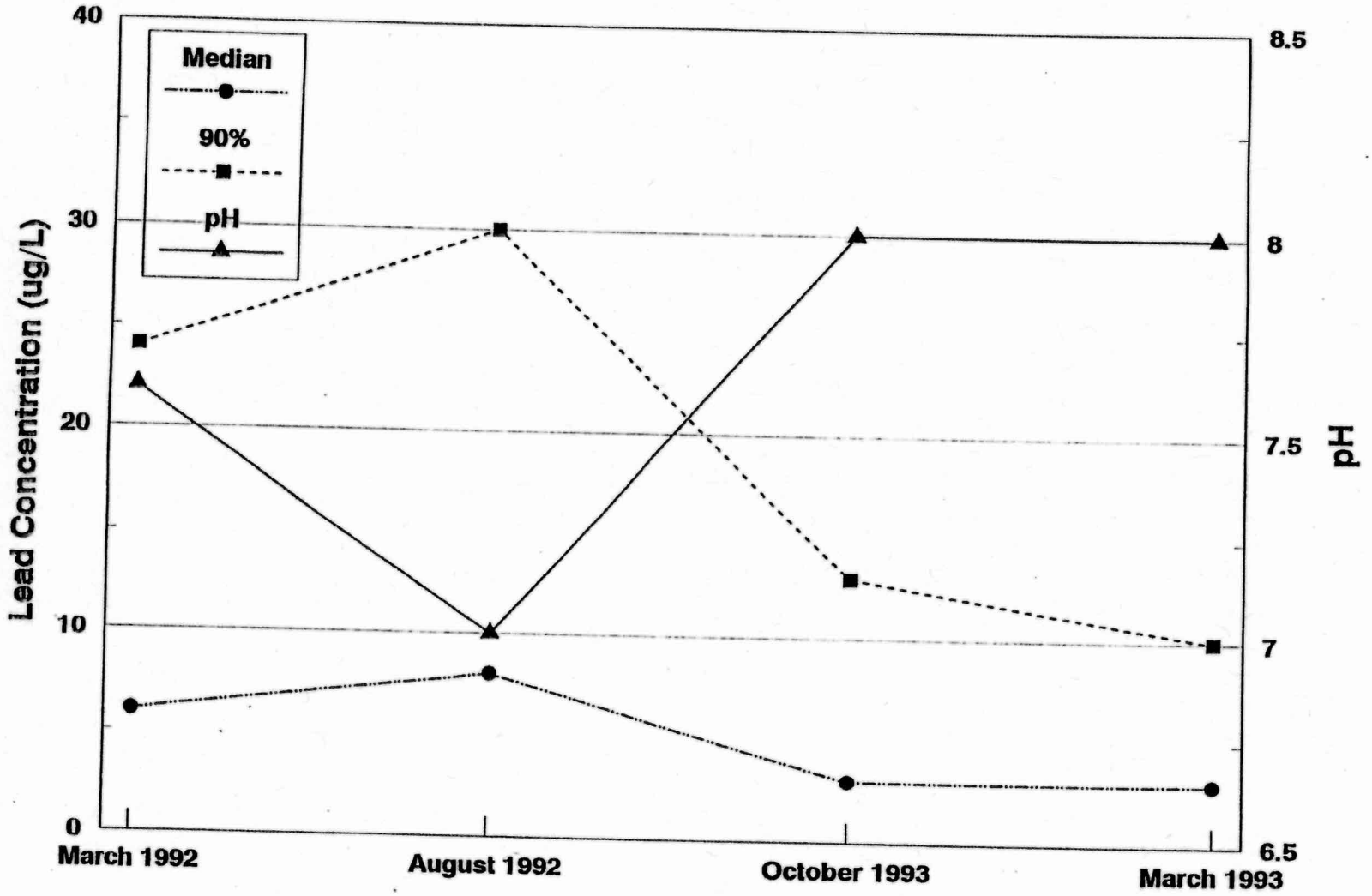
Effect Of Carbonate Passivation by pH Adjustment on Lead Corrosion

Round	Date	Median	90 %	SD[1]	Median	SD[1]
Lead Concentration (μg/L)					Distribution System pH	
1	March 1992	6	24	11	7.6	0.25
2	August 1992	8	30	25	7.0	0.38
3	October 1993	3	13	8	8.0	0.18
4	March 1994	3	10	45 [2]	8.0	0.39

NOTES

(1) SD - Standard Deviation

(2) The SD without one outlier lead concentration of 390 μg/L was 11 μg/L.



MALCOLM PIRNIE

PASSAIC VALLEY WATER COMMISSION
LITTLE FALLS, NEW JERSEY

FULL-SCALE TESTING OF CARBONATE PASSIVATION

MALCOLM PIRNIE, INC.

FIGURE ES-1

Adjusting the pH of the Passaic supply to 7.8-8.0 is the optimal corrosion control treatment for PVWC for the following reasons: (a) effectiveness in compliance with the lead action level as a result of carbonate passivation provided by the mixed supply at a pH of 8.0-8.3; (b) non-viability of other treatment alternatives such as orthophosphates and silicates due to open finished water reservoirs; (c) compatibility with corrosion control practices of NJ-American, which is a major purchaser of the Passaic supply; and (d) lower trihalomethane formation and higher disinfection efficiency at this pH in comparison to a higher pH.

The Wanaque supply is the treated water supply from the North Jersey District Water Supply Commission's (NJDWSC's) Wanaque treatment plant. PVWC is an intermediate supplier of the Wanaque supply. Wholesale purchasers of the Wanaque supply from PVWC are responsible for compliance with the Lead and Copper Rule in their water systems. However, these systems can use the results of corrosion control studies being performed by NJDWSC.

PVWC's mixed supply is also provided to wholesale purchasers, who are responsible for compliance with the Lead and Copper Rule in their water systems. Carbonate passivation practiced by PVWC will also benefit these water systems. If needed, these systems can provide additional treatment such as orthophosphates, silicates, or pH adjustment.

Recommendations

- PVWC should submit this report to the New Jersey Department of Environmental Protection and Energy (NJDEPE) for approval. This report recommends the optimal corrosion control treatment for PVWC based on an evaluation of corrosion control treatment alternatives and full-scale testing to optimize carbonate passivation. The optimal corrosion control treatment for PVWC is carbonate passivation that can be achieved by pH adjustment of the Passaic supply to 7.8-8.0, resulting in a mixed supply pH of 8.0-8.3.

- PVWC should continue to implement carbonate passivation treatment which it began in October 1992, after the mandated initial monitoring.

- PVWC should coordinate with NJDWSC and the wholesale purchasers of the Wanaque supply to share relevant information, including the results of NJDWSC's corrosion control study.

- PVWC should coordinate with the wholesale purchasers of its mixed supply to share relevant information, including the results of this corrosion control study.

JUL 26 200

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Supply - Bureau of Safe Drinking Water
401 E. State Street - P.O. Box 426
Trenton, New Jersey 08625-0426
Tel #: 609-292-5550 - Fax #: 609-292-1654
http://www.state.nj.us/dep/watersupply/

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

July 21, 2006
Certified Mail # 7003 0500 0000 2983 8036

Joseph Bella
Passaic Valley Water Commission
P.O. Box 230
Clifton, New Jersey 07011

Re: Lead and Copper Rule – Audit
Passaic Valley Water Commission
PWSID: 1605002

Dear Mr. Bella:

The Bureau of Safe Drinking Water (Bureau) conducted an internal review of your system's compliance with the Lead and Copper Rule. After reviewing our records, we determined Passaic Valley Water Commission sampled for lead and copper as follows:

Year	Number Collected	Number Required to be Collected	Pb 90th Percentile	Cu 90th Percentile
March 1992	115	100	**0.024 (ALE)**	0.219
August & September 1992	110	100	**0.030 (ALE)**	0.276
September & October 1996	103	100	0.014	0.138
May & June 1997	101	100	0.011	0.121
August 1998	78	50	0.015	0.196
June 1999	68	50	**0.028 (ALE)**	0.207
April & May 2000	100	100	0.014	0.164
October 2000	100	100	0.015	0.168
June 2001	85	50	0.013	0.139
June 2002	81	50	**0.017 (ALE)**	0.206
March 2003	111	100	0.013	0.111

Year	Number Collected	Number Required to be Collected	Pb 90th Percentile	Cu 90th Percentile
September 2003	103	100	0.010	0.071
September 2004	101	50	0.0119	0.0877
September 2005	90 Pb & 108 Cu	50	**0.0189 (ALE)**	0.1074

COMPLIANCE AND REQUEST FOR INFORMATION

The review found Passaic Valley Water Commission in compliance with the Lead and Copper Rule since 1992; **therefore no violations will be issued at this time.** However, we have identified deficiencies and are requiring the following documentation in order for the Bureau to further evaluate your compliance status.

1. A materials evaluation of the distribution system was required to be completed as required at 40 CFR 141.42. Passaic Valley Water Commission must submit the results of its materials evaluation of the distribution system used to identify a pool of targeted sampling sites pursuant 40 CFR 141.86 (a)(2).

   If the original materials evaluation can not be located, a new materials evaluation may be developed. The enclosed United States Environmental Protection Agency's *Lead and Copper Monitoring and Reporting Guidance for Public Water Systems* issued February 2002 provides guidance and forms to assist you in performing a materials evaluation.

2. The results of your materials evaluation of the distribution system were to have been used to identify a pool of targeted sampling sites that meets the requirements of the rule. As per 40 CFR 141.86(a)(2), when an evaluation of the information collected as part of the materials evaluation was insufficient to locate the requisite number of lead and copper sampling sites that meet the targeting criteria of 40 CFR141.86(a)(2), the water system was required to review the additional sources of information specified in this section in order to identify a sufficient number of sampling sites. Passaic Valley Water Commission must document whether additional sources of information were reviewed and the results of that review.

3. Passaic Valley Water Commission must review the results of its materials investigation of the distribution system in addition to the information required in 40 CFR 141.86(a)(2), and submit a sufficiently large sampling pool to the Bureau to ensure the requisite number of lead and copper sampling sites. Passaic Valley Water Commission must document that the previous sampling sites as well as the current sampling sites meet the requirements of 40 CFR 141.86(a)(3).

   Based upon the population served by Passaic Valley Water Commission, standard monitoring is to be done at a minimum of 100 locations.

4. Documentation on how Passaic Valley Water Commission selected the sites to be used when conducting reduced monitoring must be submitted to the Bureau for review, so that the

Bureau can confirm the selected sites are representative of the sites required for standard monitoring as per 40 CFR 141.86(c).

5. Passaic Valley Water Commission must document how samples are collected in compliance with 40 CFR 141.86(b). If Passaic Valley Water Commission allows residents to collect first-draw samples, Passaic Valley Water Commission must provide documentation detailing how they have historically instructed the residents of the sampling procedures of 40 CFR 141.86(b).

6. According to our records, Passaic Valley Water Commission is sampling for water quality parameters. It is our understanding that optimal water quality control parameter ranges were not established following the installation of corrosion control treatment. At this time, to be in compliance with 40 CFR 141.81(d), we would like to request Passaic Valley Water Commission recommend optimal water quality control parameter ranges to the Bureau for our review.

The information requested in items 1 through 6 above **must be provided to the Bureau in writing by mail within 30 days of receipt of this letter.** Please address all materials to the attention of Kristin Hansen.

Enclosed please find a copy of the United States Environmental Protection Agency's *Lead and Copper Monitoring and Reporting Guidance for Public Water Systems* issued February 2002. This guidance document will assist you with the requirements outlined in this correspondence.

If you have questions regarding this matter, please contact Kristin Hansen at the Bureau of Safe Drinking Water at 609-292-5550 and reference PWSID number NJ1605002 and Letter number WRE060003.

Sincerely,

Barker Hamill, Assistant Director
Water Supply Operations

C: Kristin Hansen, Bureau of Safe Drinking Water
Paul Smith, BSDW Regional Manager
James Hamilton, Administrator, Water Compliance and Enforcement
Joseph Mikulka, Manager, Northern Region WC&E
Linda Tatro, Passaic Valley Water Commission

Enclosure

PASSAIC VALLEY WATER COMMISSION
1525 MAIN AVENUE • P.O. BOX 230
CLIFTON, NEW JERSEY 07011 • (973) 340-4300
CLIFTON FAX # (973) 340-4321

AIRBORNE EXPRESS – AIRBILL NO. 9843109323

November 2, 2006

Mr. Barker Hamill
Assistant Director, Water Supply Operations
Bureau of Safe Drinking Water
401 East State Street, P.O. Box 426
Trenton, New Jersey 08625-0426

Re: Passaic Valley Water Commission
PWSID NJ1605002

Dear Mr. Hamill:

This letter is written in response to correspondence dated July 21, 2006, Attachment No.1, regarding the Lead and Copper Audit for the Passaic Valley Water System. In response to this request, Passaic Valley Water Commission (PVWC) provides the following comments.

1. Materials Evaluation: A materials evaluation of the distribution system was conducted per 49 CFR 141.42, under the direction of Linda Tatro, Laboratory Manager.
   - Lead Solder: Homes with lead solder were identified through Building Department Records, for the Cities of Clifton and Paterson, by identifying those building permits issued between 1982 and 1986. Site visits were made to confirm plumbing materials used when it was not clear from the building permit information. The selected residents were contacted by mail to inform them of the anticipated sampling program and to request their participation.
   - Lead Service Lines: Addresses of homes with lead service lines were obtained from PVWC's Distribution Department records. PVWC has historically maintained records of the owner city (Clifton, Paterson and Passaic) lead service lines on a hand written card system which was transferred to a computerized inventory system. The computerized inventory is updated on a routine basis as lead service lines are replaced.
   - Whenever a sampling site was no longer being used, or a new site was added, the required paperwork was sent in with the sampling results.
   - Attachment No. 2 provides the results of the initial distribution system materials evaluation.

2. A sufficient number of sites were identified for the initial distribution system materials evaluation and the sampling pool will continue to be sufficient until all the lead service lines are replaced.
3. Sample Pool:
   - Attachment No. 2, referenced above, provided the initial list of potential participants. As lead service lines are replaced, PVWC's Distribution Department updates this inventory.
   - Attachment No. 3 is the current sample participant list which is a subset of the list referenced in Attachment No. 1. Under standard monitoring conditions, PVWC is required to obtain a minimum of 100 samples from participants. Under reduced monitoring conditions, PVWC is required to obtain a minimum of 50 samples from participants.
     i. All participants on the list in Attachment No. 3 are requested to participate under both standard or reduced monitoring conditions. Monitoring results are mailed to each participant. For participants whose results exceeded the Action Level, PVWC contacts the participant directly to discuss the results, distributes the AWWA pamphlet on lead and copper and requests that the participant conduct a second sampling event where both a first draw and flush sample are collected. The results of this second sampling event are utilized to aid in the determination of the source of lead or copper, as applicable.
     ii. On subsequent monitoring periods, only those participants who participated in the previous sampling event are requested to sample for the current monitoring period. If there are not an adequate number of responses from this solicitation, then PVWC's Distribution Department will provide additional sample sites from the original sample pool referenced in Attachment No. 1.
4. See Item 3 response.
5. Refer to Attachment No. 4 for sampling procedures utilized at the initial sampling event and for 2006.
6. PVWC has implemented carbonate passavation corrosion control since October 1991. Since that time the optimum pH was controlled at pH 8.0 +/- 0.1. Recent improvements in water quality allowed PVWC to increase the optimum pH goal to 8.3 +/- 0.1.

If you have any further questions please call Linda Tatro at 973-237-2045.

Sincerely,

Joseph A. Bella
Executive Director

cc: K.Hansen, Bureau of Safe Drinking Water
P. Smith, BSDW Regional Manager

J. Hamilton, Administrator, Water Compliance and Enforcement
J. Mikulka, Manager, Northern Region WC&E J. Hamilton, NJDEP Enforc
J. Duprey
K. Byrne
L. Cummings
L. Pasquariello
P. Roosa
L. Tatro

ATTACHMENT NO. 1: NJDEP Letter Dated July 21, 2006
ATTACHMENT NO. 2: INIITAL DISTRIBUTION SYSTEM MATERIALS EVALUATION
ATTACHMENT NO. 3: CURRENT PARTICIPANT LIST
ATTACHMENT NO. 4: DOCUMENTS DISTRIBUTED TO REQUEST PARTICIPATION

WD Exhibit #1

JON S. CORZINE
Governor

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Supply - Bureau of Safe Drinking Water
401 E. State Street - P.O. Box 426
Trenton, New Jersey 08625-0426
Tel #: 609-292-5550 - Fax #: 609-292-1654
http://www.state.nj.us/dep/watersupply/

LISA P. JACKSON
Commissioner

July 21, 2006
Certified Mail # 7003 0500 0000 2983 8036

Joseph Bella
Passaic Valley Water Commission
P.O. Box 230
Clifton, New Jersey 07011

Re: Lead and Copper Rule – Audit
Passaic Valley Water Commission
PWSID: 1605002

Dear Mr. Bella:

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Sincerely,

Barker Hamill, Assistant Director
Water Supply Operations

C: Kristin Hansen, Bureau of Safe Drinking Water
Paul Smith, BSDW Regional Manager
James Hamilton, Administrator, Water Compliance and Enforcement
Joseph Mikulka, Manager, Northern Region WC&E
Linda Tatro, Passaic Valley Water Commission

Enclosure

Original Survey
1992

Michael Tatro

Jan 31, 1992

Start Sample Collection + Inspection 3/1/92

Mailed out 869 Letters & Post Cards

① Sent letters to Lead Service lines & possible New Plumbing that we know about from Clifton

② Have out post cards & contact personally to addresses with Pb Solder & Plumbing 1982-1986

Post Card Returns

Returns Single Family Units		58
Returns Multi Family Not usable	43	
Returns DM	4	
Returns LM	2	
Returns NO	7	
Returns Maybe	2	
Return bad address	7	

Went Door to Door ASKING People on list of Plumbing service changes to take a sample for us. 59 gave a positive response and picked up the Samples

Final Totals

51 Lead Service Line Samples

66 Copper plumbing with Pb Solder

Attachment #2

Pb/Cu

Protocol 1992
Original Survey

1/22/92 [Meeting]

Responses
1 Lenny 215
2 Dave M 235
3 Ethel 156
4 Joe B 25
5 Phi 40
6 Jerry 180
7 LT 250

75 from List of often 1985
Questionnaire by phone

1) would you like to be inspected
2)

pb/sink
2 Weeks after mailing 3 Target 2 weeks after Pick up
- Mailing Jan 31, 1992
- We responded asking by the 28th

Start Sample collection & Inspection 2/1/92

Attachment #2

JAN 26 '82

PASSAIC VALLEY WATER COMMISSION
Purification Division
P.O. Box 198
Little Falls, N.J. 07424

Attn: Lead Study Coordinator

Name:

Address:

Daytime telephone number:

Does your household plumbing contain copper pipes with lead solder installed after 1982 or does it contain lead water pipes?

To determine whether your piping system contains lead, scratch any gray metal in the system with a key or screwdriver. If the metal is lead, the scratch will be shiny.

Is your home a:

a) single family residence
b) two-family house
c) condominium
d) apartment

Do you use a water softener or any other home treatment device?

Do you use a water filter of any kind?

Figure 3. This figure illustrates the response survey cards which were mailed to the consumer with a letter (Figure 2) requesting participation in the lead and copper study.

Attachment #2

PASSAIC VALLEY WATER COMMISSION
Purification Division
P.O. Box 198
Union Boulevard & Riverview Drive
Little Falls, NJ
201-890-2487
Fax 201-890-5723

LEAD AND COPPER SAMPLING PROGRAM
CHAIN OF CUSTODY FORM

TO BE COMPLETED BY RESIDENT:

Sample Location:

Name_____
Address_____
_____

Sample taken from: (check one)
Kitchen tap_____ Bathroom tap_____ Service line_____

Water was last used: Time_____ Date_____
Sample was collected: Time_____ Date_____
Temperature of water: _____

I certify that the first-draw water sample collected has remained motionless for six (6) hours or longer.

Sample drawn by_____
Signature

To be completed by PVWC:

Lab sample number_____
Collected by_____
Number of containers_____

Sample picked up:
Date_____
Time_____

Received by_____
Date_____
Time_____

Analysis Required:
_____
_____

Figure 6. This figure illustrates the the chain of custody forms which were given to the consumer with sampling instructions.

Attachment #2

PASSAIC VALLEY WATER COMMISSION
1525 MAIN AVENUE • P.O. BOX 230
CLIFTON, NEW JERSEY 07011 • (201) 340-4300
PURIFICATION DIVISION
P.O. BOX 198
UNION BOULEVARD & RIVERVIEW DRIVE
LITTLE FALLS, NEW JERSEY 07424
CLIFTON FAX # 772-4198 • LITTLE FALLS FAX # 890-5723

Dear Consumer:

The National Primary Drinking Water Regulations Lead and Copper Rule becomes effective January 1, 1992. The rule requires that we establish a program to assess and minimize lead levels in your drinking water. Therefore, we plan to initiate a study to determine water-lead levels in area homes.

Most homes have either no or very low levels of lead in the water coming from their taps. Some homes in the community, however, may have water-lead levels that exceed the action level established by the United States Environmental Protection Agency (USEPA). When these higher lead levels occur, they are almost always the result of water being in contact with lead pipes and/or lead solder within the plumbing system and individual plumbing fixtures.

We are seeking participants in our study and encourage you to apply. Participation would require only that you collect two water samples from your tap, following a prescribed protocol. These samples will be analyzed in our laboratory for lead content and the results made available to you at no cost.

If you are interested in participating in this study, please call our Lead Study Coordinator at (201)890-2480 or fill out the enclosed postcard and mail it back to us as soon as possible.

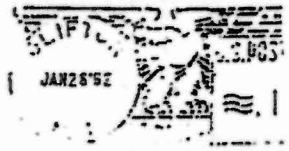
Thank you for your interest and cooperation.

Very truly yours,

Joseph A. Bella
Water Treatment Plant Superintendent

Figure 2. This figure illustrates the letters which were mailed to the consumer requesting participation in the lead and copper study.

Attachment # 2



PASSAIC VALLEY WATER COMMISSION
Purification Division
P.O. Box 198
Little Falls, N.J. 07424

Attn: Lead Study Coordinator

Name:

Address:

Daytime telephone number:

Does your household plumbing contain copper pipes with lead solder installed after 1982 or does it contain lead water pipes?

To determine whether your piping system contains lead, scratch any gray metal in the system with a key or screwdriver. If the metal is lead, the scratch will be shiny.

Is your home a:

a) single family residence
b) two-family house
c) condominium
d) apartment

Do you use a water softener or any other home treatment device?

Do you use a water filter of any kind?

Figure 3. This figure illustrates the response survey cards which were mailed to the consumer with a letter (Figure 2) requesting participation in the lead and copper study.

Passaic Valley Water Commission

Lead and Copper Sampling Program Survey

Name: _____ *Account #* _____

Address: _____ *Day Phone #:* _____

_____ *Home Phone #* _____

What type of Residence is this? **Date:** _____

Single Family ☐
Two Family ☐
Multiple Family ☐
Non Residential ☐

What year was this residence built? _____

Before 1975 ☐
Don't know ☐

Has any remodeling of plumbing been done ?

☐ YES Year ☐
☐ NO

Is a water softener or any other water treatment used?

☐ YES
☐ NO

Please state other type of water treatment device used:

_____

Conduct a "scratch test" on an exposed piece of copper piping.
Locate an exposed piece of copper piping , using a quarter scratch the silver solder.

Does the solder scratch easily?

☐ YES
☐ NO

Does the scratch test conducted on copper piping solder show shiny silver?

☐ YES
☐ NO

The service line is the line that comes from the outside to the back of your meter.

Is the service line before the water meter dull silver?

☐ YES
☐ NO

If YES then conduct a "scratch test" on an exposed piece of the service line.
Does the scratch test conducted on service line show shiny silver?

☐ YES
☐ NO

Does the line come from the floor or the wall?

☐ Floor
☐ Wall

Would you be willing to participate in PVWC's annual Lead and Copper Sampling?

☐ YES
☐ NO

Please return this survey to: Linda Tatro Passaic Valley Water Commission
800 Union Boulevard Totowa, NJ 07512
Or Call results in to 973 237 2045 email ltatro@pvwc.com

Please return this survey in the enclosed envelope before the sampling date

P.V.W.C.

PASSAIC VALLEY WATER COMMISSION

We are sorry we missed you!
As required by the Federal Environmental Protection Agency, we were here to check for lead service lines.

Please contact Linda Tatro at 973-237-2045 or 973-340-4300 to arrange for a Field Service Representative to come and investigate the water line and solder in your home plumbing.

Please call upon receipt of this notification as it is mandatory for Passaic Valley Water Commission to comply with the Federal Environmental Protection Agency.

Your cooperation is greatly appreciated.

Passaic Valley Water Commission
P.O. Box 11393
Newark, NJ 07101-4393
973-340-4300

P.V.W.C.

PASSAIC VALLEY WATER COMMISSION

We are sorry we missed you!
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P.O. Box 11393
Newark, NJ 07101-4393
973-340-4300

Attachment #4

P.V.W.C.

PASSAIC VALLEY
WATER COMMISSION

2nd NOTICE

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Newark, NJ 07101-4393
973-340-4300

P.V.W.C.

PASSAIC VALLEY
WATER COMMISSION

2nd NOTICE

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P.O. Box 11393
Newark, NJ 07101-4393
973-340-4300

P.V.W.C.

PASSAIC VALLEY
WATER COMMISSION

2nd NOTICE

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Your cooperation is greatly appreciated.

Passaic Valley Water Commission
P.O. Box 11393
Newark, NJ 07101-4393
973-340-4300

PASSAIC VALLEY WATER COMMISSION
1525 MAIN AVENUE • P.O. BOX 230
CLIFTON, NEW JERSEY 07011 • (973) 340-4300
CLIFTON FAX # (973) 340-4321

CERTIFIED MAIL RECEIPT RETURN REQUESTED

#7006 2150 0000 8911 8338

September 19, 2011

Karen Fell
Assistant Director
Water Supply Operations
NJDEP-BSDW
401 E. State St.
Trenton, NJ 08625

RE: Passaic Valley Water Commission
PWS ID# NJ1605002

Dear Ms. Fell:

This letter is submitted on behalf of Passaic Valley Water Commission's (PVWC's) Main Public Water System, PWS ID#NJ1605002. PVWC is requesting approval for use of an alternate corrosion control treatment (CCT) strategy for the Wanaque finished supply.

In August 2010, the New Jersey Department of Environmental Protection (DEP) approved a CCT strategy for PVWC's Main System consisting of pH/alkalinity adjustment for the Wanaque finished supply. The estimated five year capital and operating costs for the proposed alternatives is on the order of $1.7 to $5.8 million dollars based on estimates provided by PVWC's consultant (Black and Veatch). PVWC distributes both plant finished water and Wanaque finished water, or blends of the two finished supplies, from the Little Falls Water Treatment Plant (LFWTP).

As an alternate approach, PVWC is requesting approval to phase in the application of a blended phosphate corrosion inhibitor. CARUS™ 8500 is the product that is currently being successfully applied by PVWC at five locations: Manchester Utilities Authority (Haledon and N. Haledon), 51" Transmission Main (Harrison, Lyndhurst, N. Arlington and Nutley) and at the Little Falls Water

Treatment Plant to the discharge of the Verona, Totowa and Morris County Pump Stations. PVWC has also received approval from DEP to apply this product at the Botany Pump Station that services Elmwood Park, Garfield, Lodi and Wallington.

The blended phosphate product cannot be added to the full supply of water distributed from the LFWTP due to the existence of the open finished water reservoirs. A phased application approach, coordinated with the reservoir storage improvement project, is proposed as outlined in Table 1 below. Figure 1 provides a color coded overview of PVWC's Main System and consecutive systems and defines those municipalities currently receiving water from the LFWTP with the addition of the blended phosphate product and those that will receive water under the phased implementation approach. Figures 2, 3 and 4 provide a color coded overview of the service areas in PVWC's Main System that will receive water under the phased implementation approach. Both Table 1 and Figures 2, 3 and 4 include information on the percent of PVWC's Main System that will receive the treated supply, the percent of lead service lines (LSLs) in these areas and the percent of the finished water, supplied by PVWC, that will be treated, for the consecutive systems.

Table 1
Phased Implementation Schedule

Estimated Implementation Date	Phase	Location	Percent of PVWC's Main System Finished Water with the Addition of the Blended Phosphate Product	Percent of Lead Service Lines (LSLs) in PVWC's Main System[(1)] in Areas Receiving the Treated Supply	Percent of Finished Water Supplied by PVWC to Consecutive Systems Receiving the Treated Supply
2012-2013	Phase 1	Botany Pump Station	0%	0%	Lodi (100%), Elmwood Park (30%), Garfield (80%), Wallington (80%)
Date pending final ACO	Phase 2	Levine	37%	9%	Elmwood Park (90%), Garfield (90%), Fair Lawn (100%)
Date pending final ACO	Phase 3	New Street	75%	90%	Elmwood Park (100%), Garfield (100%), Little Falls (100%), Totowa (100%) Wallington (100%)
Date pending final ACO	Phase 4	LFWTP Pump Station	100%	100%	Woodland Park (100%)

Note [(1)] – LSL percentage based on present estimate; all LSLs will be replaced within the next 3 to 4 years.

The municipalities below distribute finished water purchased from PVWC with either their own groundwater supply or through interconnections with other surface water suppliers. Additional coordination will be required with those municipalities below since they distribute more than one supply.

- Garfield - distributes their groundwater supply and finished water purchased both from PVWC.
- Fair Lawn – distributes their groundwater supply and finished water purchased both from PVWC and United Water.

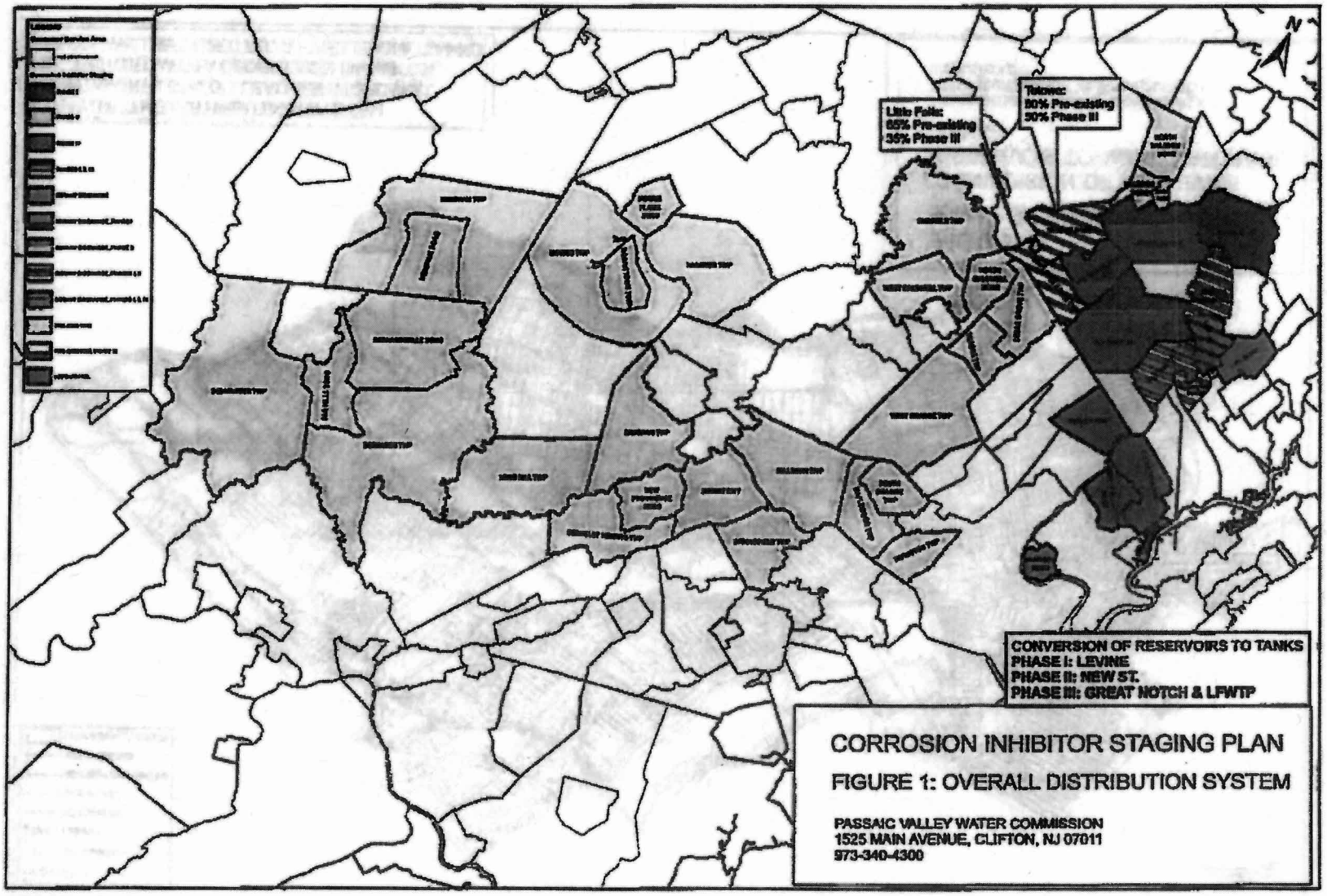
Please contact either Laura Cummings at 973-237-2039 or Kevin Byrne at 973-340-4323 for further discussion.

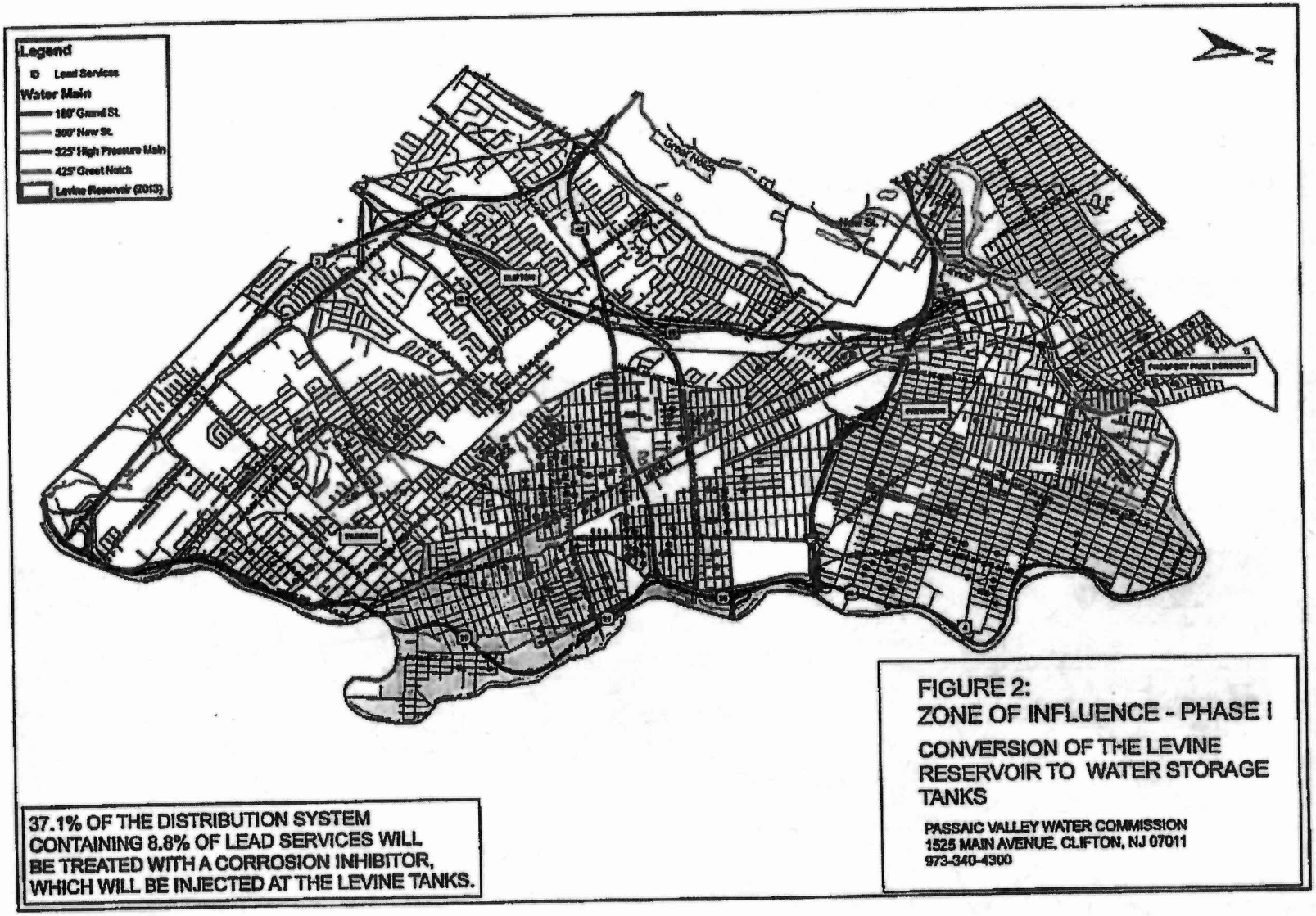
Sincerely,

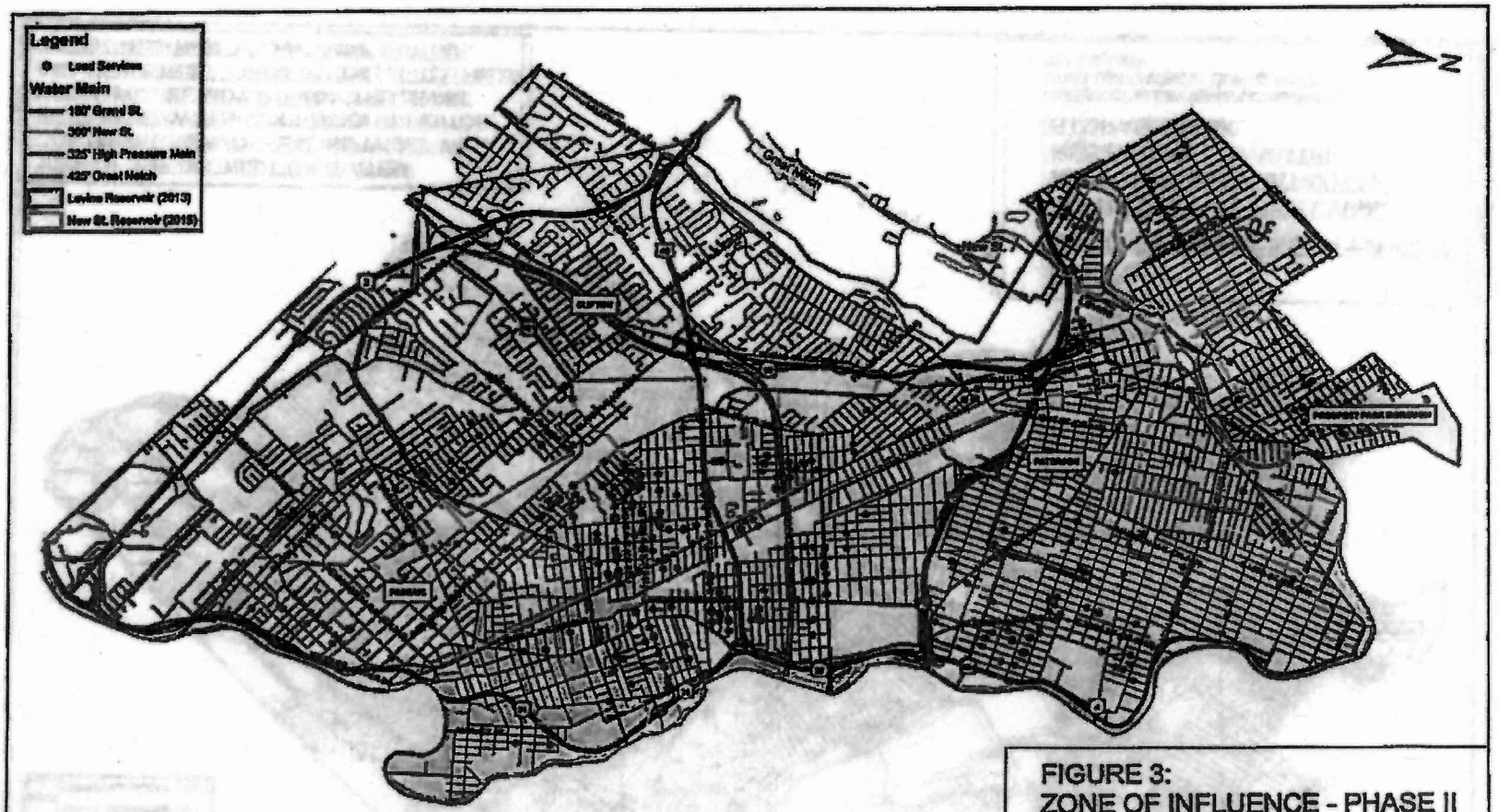
Joseph A. Bella
Executive Director

cc: P. Smith, NJDEP
Honorable Thomas DeVita
K. Byrne
L. Cummings
J. Duprey
W. Frint
A. Giallorenzo
R. Gullick
L. Pasquariello
D. Pranitis
M. Romain

/attachments


Little Falls:
65% Pre-existing
35% Phase III
Totowa:
50% Pre-existing
50% Phase III
N
CONVERSION OF RESERVOIRS TO TANKS
PHASE I: LEVINE
PHASE II: NEW ST.
PHASE III: GREAT NOTCH & LFWTP
CORROSION INHIBITOR STAGING PLAN
FIGURE 1: OVERALL DISTRIBUTION SYSTEM
PASSAIC VALLEY WATER COMMISSION
1525 MAIN AVENUE, CLIFTON, NJ 07011
973-340-4300


Legend
Lead Services
Water Main
180' Grand St.
300' New St.
325' High Pressure Main
425' Great Notch
Levine Reservoir (2013)
N
Great Notch
CLIFTON
PATERSON
PROSPECT PARK BOROUGH
PASSAIC
37.1% OF THE DISTRIBUTION SYSTEM CONTAINING 8.8% OF LEAD SERVICES WILL BE TREATED WITH A CORROSION INHIBITOR, WHICH WILL BE INJECTED AT THE LEVINE TANKS.
FIGURE 2:
ZONE OF INFLUENCE - PHASE I
CONVERSION OF THE LEVINE RESERVOIR TO WATER STORAGE TANKS
PASSAIC VALLEY WATER COMMISSION
1525 MAIN AVENUE, CLIFTON, NJ 07011
973-340-4300

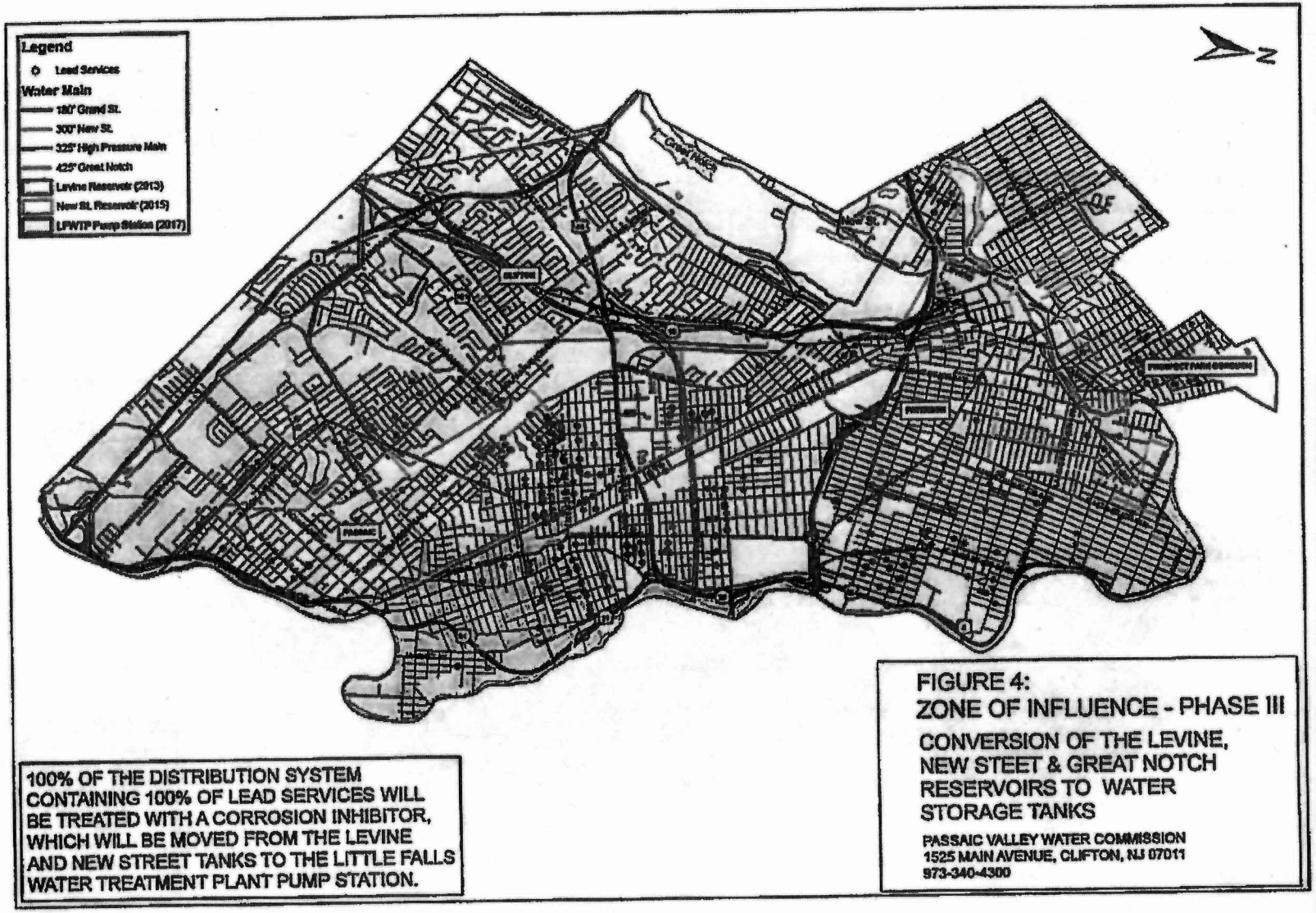


74.8% OF THE DISTRIBUTION SYSTEM CONTAINING 90.5% OF LEAD SERVICES WILL BE TREATED WITH A CORROSION INHIBITOR, WHICH WILL BE INJECTED AT THE LEVINE AND NEW STREET TANKS.

FIGURE 3:
ZONE OF INFLUENCE - PHASE II

CONVERSION OF THE LEVINE & NEW STREET RESERVOIRS TO WATER STORAGE TANKS

PASSAIC VALLEY WATER COMMISSION
1525 MAIN AVENUE, CLIFTON, NJ 07011
973-340-4300



100% OF THE DISTRIBUTION SYSTEM CONTAINING 100% OF LEAD SERVICES WILL BE TREATED WITH A CORROSION INHIBITOR, WHICH WILL BE MOVED FROM THE LEVINE AND NEW STREET TANKS TO THE LITTLE FALLS WATER TREATMENT PLANT PUMP STATION.

FIGURE 4:
ZONE OF INFLUENCE - PHASE III

CONVERSION OF THE LEVINE, NEW STEET & GREAT NOTCH RESERVOIRS TO WATER STORAGE TANKS

PASSAIC VALLEY WATER COMMISSION
1525 MAIN AVENUE, CLIFTON, NJ 07011
973-340-4300

Karen

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHRIS CHRISTIE
Governor
KIM GUADAGNO
Lt. Governor

Northern Bureau of Water Compliance and Enforcement
7 Ridgedale Avenue
Cedar Knolls, New Jersey 07927-1112
Telephone (973) 656-4099 Fax (973) 656-4400

BOB MARTIN
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
70072680000284693529

August 24, 2012

Joseph Bella, Executive Director
Passaic Valley Water Commission
1525 Main Avenue
Clifton, N. J. 07011

Dear Mr. Bella:

Re: Water Storage Improvements Feasibility Study
Passaic Valley Water Commission
PWSID No. 1605002
NEA080001

The New Jersey Department of Environmental Protection (Department) has completed a review of the revisions in Passaic Valley Water Commission's (PVWC) "Final Water Storage Improvements Feasibility Study," dated April 25, 2011 (Final Report). These revisions were made to PVWC's Water Storage Improvements Feasibility Study - Draft (Draft Report), dated September 10, 2010, as required by the Department's undated letter issued around January 18, 2011. In this letter, issued on or about January 18, 2011, the Department conceptually approved PVWC's selection of Alternative 7C (Alternative 7) to eliminate the existing three uncovered finished water reservoirs and to replace them with storage tanks of sufficient capacity for operational needs and to provide improved back-up (auxiliary) power capabilities. Alternative 7 includes the following infrastructure attributes:

- Installation of two 2.5 million gallon (MG) concrete tanks for a total of 5 MG of storage at the Levine Reservoir.
- Installation of two 15 MG concrete tanks for a total of 30 MG of storage at the New Street Reservoir.
- Installation of two 20 MG concrete tanks for a total of 40 MG of storage at the Great Notch Reservoir.

- Expanding pumping capacity of the Great Notch Pump Station by 6 million gallons per day (MGD) to a total firm capacity of 12 MGD.
- Installing a new pump station at New Street Reservoir enabling conveyance of 8 MGD finished water to the (proposed) Great Notch Tanks.
- Installation of an additional 2 MG of storage at the existing Verona Storage Tank site.
- Installation of auxiliary backup power involving four 2,500 kW generators and switchgear and a building enabling 81 MGD production at the Little Falls Treatment Plant.

PVWC's Final Report is acceptable to the Department and is conditionally approved with the caveat that PVWC is not approved to abandon or otherwise initiate physical construction activities that would affect the operations of the Great Notch Reservoir until such time that Newark Water Department (Newark) adopts a formal revised proposal regarding its Cedar Grove Reservoir. In addition, the scheduling and synchronizing of events that decommissions the Great Notch Reservoir and provides treatment for the Cedar Grove Reservoir can not be implemented until such time that Newark and PVWC execute an agreement that addresses events and scheduling regarding the construction phases for these two reservoirs, and until both parties execute Administrative Consent Orders with the Department. Aspects of decommissioning PVWC's New Street and Levine Reservoirs can proceed at this time.

PVWC's selected alternative satisfies the requirement of 40 CFR 141.714(c) and was identified by PVWC as the best alternative to provide improved water quality, consumer satisfaction, infrastructure stability and resiliency, operational optimization, and financial viability. The Department recognizes that the selected alternative best suited PVWC's operational needs; however, it does not address the regional water supply concerns resulting from the loss of these major reservoir systems.

Nonetheless, PVWC's revisions in the Final Report adequately address the Department's comments on the Draft Report. Specifically, the following items were identified as concerns during the Department's review of the September 9, 2010 Draft Report and were addressed by PVWC in the Final Report dated April 25, 2011:

1. The Department required finished water storage tank design to include a means to facilitate mixing of the stored water to prevent stagnation, which is a leading contributor to Disinfection By-Products formation. PVWC has advised in its Final Report that the new storage tanks will have separate inlets and outlets, as well as interior baffles to improve tank water quality. It is further established that tank mixing will be evaluated in greater detail as part of the final design. Figures 6.39, 6.41 and 6.43 have been amended to show inlets, outlets and baffles for all proposed storage tanks.

It is agreed that new tank performance characteristics, including mixing, is best addressed within a detailed design document. This proposal is acceptable to the Department.

2. The Department requested that PVWC detail any discussions, and the outcome, that have occurred between PVWC and Newark concerning evaluation of a potential joint alternative between the two systems and/or synchronizing and/or phasing implementation activities related to their selected alternatives. The Final Report did not address Newark's and PVWC's resolution of regional water supply concerns. Informally Newark has revised its proposal to abandon the Cedar Grove Reservoir and, instead, has proposed to maintain the Cedar Grove Reservoir and provide suitable treatment. Ongoing discussions regarding this matter have established that maintaining the Cedar Grove Reservoir best addresses regional water supply concerns during an emergency event. PVWC has indicated that it will continue to interact with Newark to pursue this mutually beneficial regional solution, and the scheduling and synchronizing of implementing their selected alternatives.

It is incumbent upon both PVWC and Newark to work cooperatively in order to effectively execute the selected alternatives. An agreement or resolution between Newark and PVWC covering the implementation of their alternatives is required. In this regard, the scheduling and synchronizing of events that decommission the Great Notch Reservoir and provide treatment for the Cedar Grove Reservoir will need to be addressed and executed under Administrative Consent Orders. Aspects of decommissioning PVWC's New Street and Levine Reservoirs can proceed at this time. However, any activities that would affect the operations of the Great Notch Reservoir and Cedar Grove Reservoir cannot be implemented until such time that Newark and PVWC execute an agreement that addresses events and scheduling regarding the construction phases for these two Reservoirs.

3. PVWC was required to address any worst case scenarios, such as the occurrence of the "Design Emergency Event" occurring when the a reservoir has been drained and the proposed water storage tanks have not yet been constructed, that may arise during construction activities and address these concerns and plans for alternate water provisions as part of an updated Emergency Response Plan. The "Design Emergency Event" of a regional power failure relies on a gravity supply of around 25 MGD from North Jersey District Water Supply Commission (NJDWSC).

PVWC has established that improved emergency back-up power at the Little Falls Treatment Plant is essential to ensuring resilient water service to its system if a Design Emergency Event occurs during construction phases at the New Street and Great Notch Reservoirs under Phases 2 & 3 of implementation of the Final Report (Project). The Levine Reservoir will be taken out of service during Phase 1 of the Project. Due to the Levine Reservoir's relatively small volume, both the New Street and Great Notch Reservoirs offset this Reservoir. Establishing improved emergency back-up power at the Little Falls Treatment Plant is to occur under Phase 1. PVWC's Final Report has identified that installation of auxiliary backup power entailing four (4) 2,500 kW generators enabling 81 MGD production at the Little Falls Treatment Plant is essential to sustaining adequate water service. To support this claim, PVWC will need to develop a hydraulic model that demonstrates that water service for its system is sustained if the New Street and/or Great Notch Reservoir are off-line and an emergency event (i.e. regional power outage) is encountered. This deliverable can be addressed as part of the

Administrative Consent Order governing the construction phase of this Project. Any infrastructure improvements needed to offset observed hydraulic limitations would have to be addressed and rendered operational in advance of interrupting the operations of the Great Notch Reservoir. Failure to establish adequate supply capability and to modify the infrastructure accordingly will not be viewed as a "force majeure" event.

4. The Department commented that the proposed Project Schedule extended roughly ten (10) years in length and the Department desired a shortened Project Schedule, if possible. PVWC was required to evaluate the factors affecting its proposed Project Schedule and determine whether the proposed Project Schedule could be compressed and, if not, provide the reasons why.

PVWC has advised that final construction completion of all three phases in the Project is scheduled for the end of the first quarter of 2019, a total project duration of 7 years and 9 months. PVWC has confirmed with consultants and tank manufacturers that the construction period will entail 5 and ½ years. The remaining period accounts for design, permitting and financing activities. Financing and potential local opposition may extend the schedule significantly, variables beyond PVWC's control.

The Department concurs that the schedule is a general estimation of activities that may require modification as this Project advances. Permitting requirements, access issues and operational coordination with Newark have the potential to profoundly affect the Project schedule. A more refined implementation schedule shall be included within the design document, which will be submitted by PVWC.

In addition, the Department has identified the following concerns in its review of the Final Report:

1. The proposed stormwater detention basins at the site of the New Street Reservoir and the Great Notch Reservoir appear to have constructed embankments, which may be regulated dams. A dam safety permit may be required to be obtained prior to construction. Dams would be Class IV and require no permit from the Department's Dam Safety program, under current regulation, if they are low hazard, are under 15 feet in height, have storage volume of less than 15 acre-feet, have a drainage area of 150 acres or less, and spillways have capacity for a 100 year storm plus 50%.

2. Our New Jersey Historic Preservation Office provided comments by letter dated November 24, 2010. A copy of the letter is attached for your reference. The HPO has not received a response from PVWC on the matters indicated in the letter. In addition, upon submission of the survey documentation requested in the November 24, 2010 letter, PVWC shall also submit maps, photos and a description of the work proposed at the Verona tank site.

3. An Individual New Jersey Pollutant Discharge Elimination System permit for Stormwater discharge will be required at the Great Notch Reservoir site due to the proposed disturbance of the Great Notch Residuals Storage Site Landfill.

4. PVWC has previously established that corrosion control treatment for addressing exceeded action levels was to be based on pH and alkalinity adjustment of the finished water supplied to PVWC from NJDWSC's Wanaque Water Treatment Plant at the Little Falls interconnection. The pH and alkalinity option was chosen instead of the addition of a phosphate-based corrosion inhibitor to avoid nutrient loading to the existing open finished water reservoirs. PVWC has since petitioned the Department to approve a phased approach for installing phosphate-based corrosion control treatment, contingent on the Department's approval of the Project, in lieu of pH and alkalinity adjustment. Based on recently provided information, the Department understands that installation of phosphate-based corrosion control treatment for the Levine and New Street Reservoir service areas is more tightly connected to the Project and will require protracted schedules; however, phosphate-based corrosion control treatment on the effluent of the Great Notch Reservoir can be implemented in a more immediate fashion. The Department is amenable to this proposal. PVWC will need to provide timelines and milestones related to this proposal to remain in compliance.

The recommendations in PVWC's Final Report (along with the corrosion control treatment timelines and milestones which are to be provided by PVWC) will be utilized in the amendment of the Administrative Consent Order that was executed by PVWC and the Department on March 30, 2009. The Department will schedule a meeting with PVWC to determine appropriate milestones and timelines which are to be made part of the amended ACO.

If you should have questions regarding this correspondence, please contact Lisa Tracy of my staff. Ms. Tracy may be reached at the letterhead address and telephone number, or by email sent to lisa.tracy@dep.state.nj.us.

Very truly yours,

Richard T. Paull

Richard T. Paull, Acting Chief
Northern Bureau of Water
Compliance and Enforcement

Attachment

c: Laura Cummings, Passaic Valley Water Commission
Fred Sickels, Director, Division of Water Supply and Geoscience
Karen Fell, Assistant Director, Division of Water Supply and Geoscience
Jonathon Kinney, Historic Preservation Office
Ruth Foster, Office of Permit Coordination and Environmental Review
Marcedius Jameson, Administrator, Water and Land Use Enforcement

HPO-K2010-148 PROD
Log# 10-2030-1, -2, -3, -4

State of New Jersey
MAIL CODE 501-04B
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NATURAL & HISTORIC RESOURCES
HISTORIC PRESERVATION OFFICE
P.O. Box 420
Trenton, NJ 08625-0420
TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

November 24, 2010

Alphonse J. Sessa
Project Manager
TY-Lin International/Medina
550 Broad Street, Suite 1105
Newark, NJ 07102

Re: **Passaic County, Borough of Woodland Park and City of Paterson**
Great Notch Reservoir, New Street Reservoir, Levine Reservoir
Passaic Valley Water Commission
Water Storage Improvement Feasibility Study
Phase IA – Cultural Resources Surveys

Dear Mr. Sessa,

The New Jersey Historic Preservation Office (HPO) is in receipt of your letter of July 28, 2010 regarding the above-referenced proposed undertaking as well as copies of the following three reports, all received in our office on July 29, 2010:

Leynes, Jennifer B., Paul J. McEachen, and Laura D. Cushman. July 7, 2010. *Phase IA Cultural Resources Survey, Great Notch Reservoir, Water Storage Improvement Project, Borough of Woodland Park, Passaic County, New Jersey* Cranbury, NJ: Richard Grubb & Associates, Inc. Prepared for T.Y. Lin International/Medina

Leynes, Jennifer B., Paul J. McEachen, and Laura D. Cushman. July 6, 2010. *Phase IA Cultural Resources Survey, New Street Reservoir, Water Storage Improvement Project, Borough of Woodland Park, Passaic County, New Jersey.* Cranbury, NJ: Richard Grubb & Associates, Inc. Prepared for T.Y. Lin International/Medina.

Leynes, Jennifer B., Ilene Grossman-Bailey, and Laura D. Cushman. July 6, 2010 *Phase IA Cultural Resources Survey, Levine Reservoir, Water Storage Improvement Project, City of Paterson, Passaic County, New Jersey.* Cranbury, NJ: Richard Grubb & Associates, Inc. Prepared for T.Y. Lin International/Medina.

The HPO is providing comments on the proposed undertaking in anticipation of the Passaic Valley Water Commission's need to apply for Freshwater Wetlands Permits through the New Jersey Department of Environmental Protection's Division of Land Use Regulation. In addition, the submitted documentation states that the project will be funded through the New Jersey Environmental Infrastructure Trust. Therefore, due to the presence of federal funding, project review and consultation pursuant to Section 106 of the National Historic Preservation Act are required and will involve the NJDEP Municipal Finance and Construction Element. As discussed later in this letter, an Application for Project Authorization must also be submitted to the HPO pursuant to the New Jersey Register of Historic Places Act, as the Levine Reservoir is located within the boundaries of the New Jersey Register listed Great Falls of Paterson/Society for Establishing Useful Manufacturers Historic District.

At this time, I concur that Passaic County, the Borough of Woodland Park, the City of Paterson, HPO, National Park Service, and the Passaic Valley Water Commission are the appropriate consulting parties for the initiation of consultation. Based upon a later discussion regarding the Little Falls Water Treatment Plant in this letter, the Borough of Totowa should also be added as a consulting party. I also concur that the Passaic County Cultural and Heritage Commission, Paterson Friends of the Great Falls, Passaic County Parks Department, Mr. Ed Smyk-Passaic County Historian, Passaic County Historical Society, and Paterson Historic Preservation Commission are likely to have knowledge of or concerns with historic properties in the area and may be able to identify issues relating to potential effects on historic properties. As noted above, if funding is received through the New Jersey Environmental Infrastructure Trust, NJDEP's Municipal Finance and Construction Element shall be added to the list of consulting parties.

Great Notch Reservoir

No previously identified architectural resources exist within the APE-Architecture for the Great Notch Reservoir. The Great Notch Reservoir has not been previously evaluated to determine its eligibility for the New Jersey and National Registers of Historic Places. Given its age and integrity of design, an intensive-level survey of the Great Notch Reservoir, to include the dam and gatehouse, is recommended to evaluate its eligibility for the National Register. *The HPO concurs with this recommendation.* If the reservoir is determined to be eligible, the effects of the project alternatives on the Great Notch Reservoir will have to be assessed.

Based on the topographic setting, the results of background research, and a site visit, the northern portion of the APE-Archaeology is considered to have a moderate to high potential to contain both prehistoric and historic period archaeological resources. The consultant recommends that a Phase IB cultural resources survey be conducted in the location of the proposed access road, as well as in any areas where the proposed tank

construction will affect intact well drained and undisturbed soil surfaces located beyond the limits of the existing reservoir. In addition, if the proposed modifications to the spillway will impact the undisturbed, fast land located to the east of the spillway, this area should be subjected to a Phase IB survey. Drowned or submerged archaeological resources may also be present in what were formerly upland surfaces at the Great Notch Reservoir. A Phase IB survey is recommended to determine the presence or absence of archaeological resources where formerly upland landforms may be exposed or impacted *The HPO concurs with these assessments and requests that the recommended surveys be conducted accordingly.*

New Street Reservoir

One previously identified historic resource is located within the APE-Architecture for the New Street Reservoir. The Garrett Mountain Park was determined eligible for listing in the New Jersey and National Registers of Historic Places in a SHPO Opinion of Eligibility on October 26, 1979. The Garrett Mountain Park also received a Determination of Eligibility from the Keeper of the National Register on January 30, 1980.

The New Street Reservoir has not been previously evaluated to determine its eligibility for the New Jersey and National Registers of Historic Places. Given its age and its overall integrity of design, an intensive-level survey of the reservoir, including the reinforced-concrete buttressed multiple-arch dam, concrete drainage ditch, abandoned chlorination building, and pumping station, is recommended in order to assess its eligibility. *The HPO concurs with this recommendation.* If the reservoir is determined to be eligible, the effects of the project alternatives on the Great Notch Reservoir will have to be assessed.

Based on the topographic setting, the results of background research, and a site visit, the consultant assessed the APE-Archaeology to have a low potential to contain significant prehistoric and historic cultural resources in areas where terrestrial impacts are proposed. No additional archaeological survey was recommended in those areas. However, the consultant did note that it is possible that there were once well drained upland soils located in what is now the New Street Reservoir. Drowned or submerged prehistoric archaeological resources could be present in these formerly upland surfaces. A Phase IB survey is recommended to determine the presence or absence of archaeological resources where formerly upland landforms may be exposed or impacted. *The HPO concurs with these assessments and requests that the recommended survey be conducted accordingly.*

Levine Reservoir

The APE-Architecture for the Levine Reservoir is located within the boundaries of the Great Falls of Paterson/Society for Establishing Useful Manufacturers (SUM) Historic District, which was listed on the National Register of Historic Places on April 17, 1970 and the New Jersey Register of Historic Places on May 27, 1971. The district Addendum (within which the reservoir is located) was listed on the New Jersey Register

on October 15, 1974 and the National Register on January 8, 1975. The district was listed as a National Historic Landmark on May 11, 1976

Although it is not specifically mentioned as a contributing resource to the district in the Addendum's nomination forms, it is my opinion as Deputy State Historic Preservation Officer, that the **Levine Reservoir** (Block 4802/Lot 28) is a contributing element within the Great Falls of Paterson/Society for Establishing Useful Manufacturer (SUM) Historic District. Based upon the submitted report, the reservoir, originally known as the Stony Road Reservoir and Grand Street Reservoir was constructed within the district's period of significance (1793-1912), has not been significantly altered since its construction, and is historically associated with the industrial development of Paterson. Paterson Historic Preservation Commission Executive Director Gianfranco Archimedes, in his June 17, 2010 telephone conversation with Jennifer Leynes of Richard Grubb & Associates, concurred with the recommendation that the reservoir contributes to the district and stated that the Levine Reservoir is the last of four reservoirs that formerly comprised the Paterson waterworks system

HPO staff also concurs that the Grand Street Pumping Station (138 Grand Street), locate across Grand Street from the Levine Reservoir, should be surveyed at the intensive-level. The building was recommended individually eligible in the 1987 City of Paterson Cultural Resources Survey and is historically associated with the Levine Reservoir. Should any additional information pertaining to the Levine Reservoir and its connection the historic district be uncovered during the intensive survey of the Pumping Station, the HPO requests that it be included in the survey for our files.

Based upon the topographic setting, the results of background research, and a site visit, the APE-Archaeology is considered to have a very low potential to contain significant prehistoric and historic period archaeological resources. The construction of the reservoir, excavated into bedrock in 1885, lessened the sensitivity for historic or prehistoric archaeological resources within the APE-Archaeology. No further archaeological survey is recommended. *The HPO concurs with this assessment*

The consultant recommended that additional consultation is warranted in order to assess the effects of the proposed undertaking upon the Levine Reservoir, the Great Falls of Paterson/Society for Establishing Useful Manufacturers (SUM) Historic District, and the Grand Street Pumping Station upon completion of the requested historic property identification efforts. *The HPO concurs with this assessment.* At this time, HPO staff anticipates that the removal of the Levine Reservoir (a contributing resource) and its subsequent replacement with structural holding tanks at the same location will constitute an adverse effect to historic properties. An evaluation of project alternatives and the development of measures to avoid/minimize, and/or mitigate any adverse effects will be required

Review Pursuant to the New Jersey Register of Historic Places Act

Public undertakings that may encroach upon New Jersey Register of Historic Places listed resources require prior authorization by the Commissioner of the Department of Environmental Protection (DEP), pursuant to the New Jersey Register of Historic Places

Act (NJRPHA). As a portion of the proposed undertaking is located within the boundaries of the New Jersey Register listed Great Falls of Paterson/Society for Establishing Useful Manufacturers (SUM) Historic District, the project sponsor must submit an Application for Project Authorization pursuant to the NJRHPA to the HPO for this project.

If the project is determined to be in conformance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* upon receipt of a technically and professionally complete and sufficient Application, the Application will be administratively approved. If the project is determined to constitute an encroachment upon the historic district, the project must be reviewed by the New Jersey Historic Sites Council (HSC) at one of its regularly scheduled bi-monthly meetings. The HSC findings are then forwarded to the DEP Commissioner who takes the final action.

Additional Comments

Although not addressed in the submitted cultural resources reports, the proposed alternative includes project elements at the Little Falls Water Treatment Plant (LFWTP) in the Borough of Totowa. This facility is a historic property. The LFWTP was determined eligible for listing in the New Jersey and National Registers of Historic Places in a SHPO Opinion of Eligibility on 9/27/01. In addition, the New Jersey and National Register listed Morris Canal traverses the Water Treatment Plant property. Any work that is done on that property will also be subject to review pursuant to the appropriate historic preservation regulations including but not limited to, Section 106 of the National Historic Preservation Act, and the New Jersey Register of Historic Places Act.

The HPO appreciates the opportunity to review and comment on the potential for the proposed undertaking to affect historic and archaeological resources and looks forward to continuing consultation with the Passaic Valley Water Commission, their consultants, and other consulting/interested parties. If you have any questions regarding this letter, please do not hesitate to contact Jonathan Kinney at (609) 984-0141 with any questions regarding historic architecture, historic districts, or historic landscapes, or Vincent Maresca at (609) 633-2395 with questions regarding archaeology. Thank you.

Sincerely,

D. Saunders

Daniel D. Saunders
Acting Administrator and
Deputy State Historic
Preservation Officer

Cc

Glenn Modica, Richard Grubb & Associates
Lisa Tracey, NJDEP Northern Bureau – Water Compliance & Enforcement
James Duprey, Passaic Valley Water Commission
T. Cregg Madrigal, NJDEP Municipal Finance and Construction Element
County Clerk, Passaic County
Municipal Clerk, Borough of Woodland Park
Municipal Clerk, City of Paterson
Bill Bolger, Paterson Great Falls National Historic Park - National Park Service
Municipal Clerk, Borough of Totowa
Maria Gillan, Passaic County Cultural and Heritage Commission
David Soo, Paterson Friends of the Great Falls
Raymond Wright, Passaic County Parks Department
Ed Smyk – Passaic County Historian
Alison Faubert, Passaic County Historical Society
Gianfranco Archimede, Paterson Historic Preservation Commission

Exemption 6

New Jersey Department of Environmental Protection

Bureau of Safe Drinking Water
CN 426, Trenton, NJ 08625-0426
(609) 292-5550

PB

LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission
Address 1525 Main Avenue
City Clifton
State NJ Zip 07011

PWS ID# NJ1605002
Laboratory ID# 07010
Laboratory Name APL

Number of Distribution Tap Samples Required 109 Number Taken 109
Multiply Number Taken by 0.9, Enter Here 98
Lead Results at the Location of the Above Sample Number* 0.0097 (This is the 90th Percentile) mg/L - ActionLevel = 0.015 mg/L

Lead Action Level Exceeded, Check Here ☐

*IF TAKING 5 SAMPLES PER PERIOD, AVERAGE THE HIGHEST AND 2ND HIGHEST CONCENTRATIONS TO DETERMINE 90TH PERCENTILE

List the results of all lead samples taken during the six -month monitoring period in acsending order from the sample with the lowest concentration to the sample with the highest concentration.

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
1	[redacted]	D	03/15/2013	<0.0005	EPA 200.8	3/26/13
2	[redacted]	A	03/22/2013	<0.0005	EPA 200.8	4/4/13
3	[redacted]	B	03/26/2013	<0.0005	EPA 200.8	4/5/13
4	[redacted]	B	03/25/2013	<0.0005	EPA 200.8	4/5/13
5	[redacted]	A	03/28/2013	<0.0005	EPA 200.8	4/12/13
6	[redacted]	A	03/22/2013	<0.0005	EPA 200.8	4/4/13
7	[redacted]	B	03/22/2013	<0.0005	EPA 200.8	4/3/13
8	[redacted]	B	03/22/2013	<0.0005	EPA 200.8	4/4/13
9	[redacted]	A	03/22/2013	<0.0005	EPA 200.8	4/3/13
10	[redacted]	B	03/22/2013	<0.0005	EPA 200.8	4/4/13
11	[redacted]	B	03/15/2013	<0.0005	EPA 200.8	3/26/13
12	[redacted]	B	03/22/2013	<0.0005	EPA 200.8	4/5/13
13	[redacted]	D	03/22/2013	<0.0005	EPA 200.8	4/4/13
14	[redacted]	B	03/15/2013	0.0005	EPA 200.8	3/26/13
15	[redacted]	B	03/22/2013	0.0005	EPA 200.8	4/3/13
16	[redacted]	A	03/22/2013	0.0006	EPA 200.8	4/4/13
17	[redacted]	B	03/19/2013	0.0006	EPA 200.8	3/26/13
18	[redacted]	E	03/22/2013	0.0007	EPA 200.8	4/4/13
19	[redacted]	B	03/22/2013	0.0007	EPA 200.8	4/3/13
20	[redacted]	B	03/22/2013	0.0007	EPA 200.8	4/4/13
21	[redacted]	B	03/22/2013	0.0008	EPA 200.8	4/4/13
22	[redacted]	A	03/22/2013	0.0008	EPA 200.8	4/4/13
23	[redacted]	B	03/15/2013	0.0008	EPA 200.8	3/26/13
24	[redacted]	A	03/22/2013	0.0009	EPA 200.8	4/4/13
25	[redacted]	D	03/15/2013	0.0009	EPA 200.8	3/26/13
26	[redacted]	B	03/22/2013	0.0009	EPA 200.8	4/5/13
27	[redacted]	A	03/26/2013	0.0009	EPA 200.8	4/5/13
28	[redacted]	A	03/18/2013	0.0010	EPA 200.8	3/26/13
29	[redacted]	B	03/15/2013	0.0011	EPA 200.8	3/26/13
30	[redacted]	B	03/22/2013	0.0011	EPA 200.8	4/5/13
31	[redacted]	A	03/26/2013	0.0011	EPA 200.8	4/5/13
32	[redacted]	B	03/15/2013	0.0011	EPA 200.8	3/26/13

SEE END OF THE LEAD REPORT FOR LOCATION TYPES AND CERTIFICATIONS.
NOTE: THIS FORM IS UNACCEPTABLE WITHOUT THE APPROPRIATE AUTHORIZED SIGNATURE.

Exemption 6

CONTINUATION SHEET - LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

PB

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
33	[redacted]	A	03/15/2013	0.0011	EPA 200.8	3/26/13
34	[redacted]	B	03/22/2013	0.0012	EPA 200.8	4/4/13
35	[redacted]	A	03/26/2013	0.0012	EPA 200.8	4/5/13
36	[redacted]	D	03/15/2013	0.0012	EPA 200.8	4/12/13
37	[redacted]	A	03/26/2013	0.0013	EPA 200.8	4/5/13
38	[redacted]	B	03/19/2013	0.0013	EPA 200.8	3/26/13
39	[redacted]	B	03/22/2013	0.0015	EPA 200.8	4/4/13
40	[redacted]	B	03/22/2013	0.0015	EPA 200.8	4/4/13
41	[redacted]	A	03/22/2013	0.0016	EPA 200.8	4/4/13
42	[redacted]	A	03/15/2013	0.0016	EPA 200.8	3/26/13
43	[redacted]	E	03/15/2013	0.0017	EPA 200.8	3/26/13
44	[redacted]	B	03/22/2013	0.0017	EPA 200.8	4/3/13
45	[redacted]	D	03/22/2013	0.0018	EPA 200.8	4/3/13
46	[redacted]	B	03/15/2013	0.0018	EPA 200.8	3/26/13
47	[redacted]	A	03/22/2013	0.0018	EPA 200.8	4/4/13
48	[redacted]	A	03/22/2013	0.0019	EPA 200.8	4/3/13
49	[redacted]	D	03/15/2013	0.0019	EPA 200.8	3/26/13
50	[redacted]	A	03/22/2013	0.0019	EPA 200.8	4/3/13
51	[redacted]	D	03/15/2013	0.0021	EPA 200.8	3/26/13
52	[redacted]	A	03/22/2013	0.0021	EPA 200.8	4/4/13
53	[redacted]	D	03/25/2013	0.0022	EPA 200.8	4/5/13
54	[redacted]	B	03/22/2013	0.0023	EPA 200.8	4/3/13
55	[redacted]	A	03/22/2013	0.0024	EPA 200.8	4/4/13
56	[redacted]	A	03/22/2013	0.0025	EPA 200.8	4/3/13
57	[redacted]	B	03/22/2013	0.0025	EPA 200.8	4/3/13
58	[redacted]	E	03/15/2013	0.0026	EPA 200.8	3/26/13
59	[redacted]	B	03/22/2013	0.0027	EPA 200.8	4/4/13
60	[redacted]	A	03/22/2013	0.0027	EPA 200.8	4/3/13
61	[redacted]	A	03/22/2013	0.0027	EPA 200.8	4/5/13
62	[redacted]	B	03/15/2013	0.0028	EPA 200.8	3/26/13
63	[redacted]	B	03/21/2013	0.0029	EPA 200.8	4/3/13
64	[redacted]	A	03/22/2013	0.0030	EPA 200.8	4/4/13
65	[redacted]	A	03/22/2013	0.0030	EPA 200.8	4/3/13
66	[redacted]	A	03/25/2013	0.0031	EPA 200.8	4/5/13
67	[redacted]	A	03/22/2013	0.0034	EPA 200.8	4/4/13
68	[redacted]	D	03/22/2013	0.0035	EPA 200.8	4/3/13
69	[redacted]	A	03/22/2013	0.0037	EPA 200.8	4/3/13
70	[redacted]	D	03/22/2013	0.0038	EPA 200.8	4/5/13
71	[redacted]	A	03/25/2013	0.0040	EPA 200.8	4/5/13
72	[redacted]	A	03/22/2013	0.0043	EPA 200.8	4/3/13
73	[redacted]	A	03/22/2013	0.0043	EPA 200.8	4/4/13
74	[redacted]	A	03/22/2013	0.0044	EPA 200.8	4/4/13
75	[redacted]	A	03/19/2013	0.0045	EPA 200.8	3/26/13
76	[redacted]	A	03/15/2013	0.0046	EPA 200.8	3/26/13
77	[redacted]	A	03/22/2013	0.0047	EPA 200.8	4/5/13
78	[redacted]	A	03/15/2013	0.0047	EPA 200.8	3/26/13
79	[redacted]	A	03/22/2013	0.0047	EPA 200.8	4/3/13
80	[redacted]	A	03/15/2013	0.0049	EPA 200.8	3/26/13
81	[redacted]	A	03/22/2013	0.0049	EPA 200.8	4/5/13
82	[redacted]	A	03/22/2013	0.0050	EPA 200.8	4/4/13

Exemption 6

CONTINUATION SHEET - LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

PB

ıple Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
83	[redacted]	A	03/20/2013	0.0052	EPA 200.8	3/26/13
84	[redacted]	D	03/15/2013	0.0058	EPA 200.8	3/26/13
85	[redacted]	B	03/22/2013	0.0062	EPA 200.8	4/4/13
86	[redacted]	A	03/22/2013	0.0065	EPA 200.8	4/4/13
87	[redacted]	A	03/22/2013	0.0071	EPA 200.8	4/3/13
88	[redacted]	A	03/22/2013	0.0073	EPA 200.8	4/5/13
89	[redacted]	A	03/19/2013	0.0074	EPA 200.8	3/26/13
90	[redacted]	A	03/22/2013	0.0075	EPA 200.8	4/4/13
91	[redacted]	A	03/22/2013	0.0076	EPA 200.8	4/5/13
92	[redacted]	A	03/25/2013	0.0077	EPA 200.8	4/5/13
93	[redacted]	A	03/22/2013	0.0077	EPA 200.8	4/3/13
94	[redacted]	B	03/26/2013	0.0078	EPA 200.8	4/5/13
95	[redacted]	A	03/22/2013	0.0078	EPA 200.8	4/3/13
96	[redacted]	D	03/15/2013	0.0082	EPA 200.8	3/26/13
97	[redacted]	A	03/22/2013	0.0086	EPA 200.8	4/4/13
98	[redacted]	A	03/22/2013	0.0097	EPA 200.8	4/4/13
99	[redacted]	D	03/15/2013	0.0106	EPA 200.8	3/26/13
100	[redacted]	E	03/15/2013	0.0109	EPA 200.8	3/26/13
101	[redacted]	A	03/15/2013	0.0110	EPA 200.8	3/26/13
102	[redacted]	A	03/18/2013	0.0115	EPA 200.8	3/26/13
103	[redacted]	A	03/22/2013	0.0117	EPA 200.8	4/4/13
104	[redacted]	A	03/22/2013	0.0139	EPA 200.8	4/4/13
105	[redacted]	E	03/14/2013	0.0170	EPA 200.8	3/26/13
06	[redacted]	A	03/22/2013	0.0195	EPA 200.8	4/4/13
107	[redacted]	D	03/21/2013	0.0267	EPA 200.8	3/26/13
108	[redacted]	A	03/15/2013	0.0287	EPA 200.8	3/26/13
109	[redacted]	D	03/15/2013	0.0308	EPA 200.8	3/26/13

LOC TYPE	DESCRIPTION	TIER
A	Lead Service Lines	1
B	Single Family Structures with Copper Pipe & Lead Solder installed after 1982	1
C	Building & Multifamily Residences with Copper Pipes & Lead Solder installed after 1982	2
D	Building & Multifamily Residences containing Lead Pipes or Service Lines	2
E	Single Family Structures that contain Copper Pipe with Lead Solder installed before 1983	3
F	Other	3

I certify that each first draw sample collected by the water system is one-liter in volume and, to the best of my knowledge, has stood motionless in the service line, or in the interior plumbing of a sample site, for at least six hours; and if residents collected the samples, I certify that each tap sample collected by the residents was taken after the water system informed them of proper sampling procedures specified in 141,86(b) (2).

SIGNATURE _____

PRINT NAME _____

TITLE _____

DATE _____

TEL. NO. _____

Exemption 6

New Jersey Department of Environmental Protection

Bureau of Safe Drinking Water
CN 426, Trenton, NJ 08625-0426
(609) 292-5550

CU

COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission
Address 1525 Main Avenue
City Clifton
State NJ Zip 07011

PWS ID# NJ1605002
Laboratory ID# 07010
Laboratory Name APL

Number of Distribution Tap Samples Required 109 Number Taken 109
Multiply Number Taken by 0.9, Enter Here 98
Copper Results at the Location of the Above Sample Number* 0.1004 (This is the 90th Percentile) mg/L - Action Level = 1.3 mg/L

Copper Action Level Exceeded, Check Here ☐

*IF TAKING 5 SAMPLES PER PERIOD, AVERAGE THE HIGHEST AND 2ND HIGHEST CONCENTRATIONS TO DETERMINE 90TH PERCENTILE

List the results of all lead samples taken during the six -month monitoring period in acsending order from the sample with the lowest concentration to the sample with the highest concentration.

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
1	[redacted]	A	03/15/2013	0.0058	EPA 200.8	03/26/2013
2	[redacted]	E	03/15/2013	0.0062	EPA 200.8	03/26/2013
3	[redacted]	A	03/22/2013	0.0092	EPA 200.8	04/03/2013
4	[redacted]	A	03/22/2013	0.0094	EPA 200.8	04/03/2013
5	[redacted]	A	03/22/2013	0.0097	EPA 200.8	04/04/2013
6	[redacted]	A	03/25/2013	0.0104	EPA 200.8	04/05/2013
7	[redacted]	B	03/15/2013	0.0113	EPA 200.8	03/26/2013
8	[redacted]	B	03/22/2013	0.0116	EPA 200.8	04/04/2013
9	[redacted]	D	03/15/2013	0.0134	EPA 200.8	03/26/2013
10	[redacted]	B	03/22/2013	0.0139	EPA 200.8	04/03/2013
11	[redacted]	A	03/22/2013	0.0145	EPA 200.8	04/04/2013
12	[redacted]	D	03/22/2013	0.0149	EPA 200.8	04/03/2013
13	[redacted]	A	03/26/2013	0.0158	EPA 200.8	04/05/2013
14	[redacted]	A	03/22/2013	0.0164	EPA 200.8	04/03/2013
15	[redacted]	A	03/25/2013	0.0169	EPA 200.8	04/05/2013
16	[redacted]	A	03/15/2013	0.0171	EPA 200.8	03/26/2013
17	[redacted]	B	03/22/2013	0.0188	EPA 200.8	04/03/2013
18	[redacted]	A	03/22/2013	0.0203	EPA 200.8	04/04/2013
19	[redacted]	A	03/26/2013	0.0205	EPA 200.8	04/05/2013
20	[redacted]	A	03/22/2013	0.0215	EPA 200.8	04/04/2013
21	[redacted]	A	03/22/2013	0.0220	EPA 200.8	04/05/2013
22	[redacted]	B	03/22/2013	0.0223	EPA 200.8	04/04/2013
23	[redacted]	A	03/15/2013	0.0227	EPA 200.8	03/26/2013
24	[redacted]	D	03/15/2013	0.0234	EPA 200.8	03/26/2013
25	[redacted]	B	03/15/2013	0.0235	EPA 200.8	03/26/2013
26	[redacted]	A	03/22/2013	0.0247	EPA 200.8	04/04/2013
27	[redacted]	B	03/22/2013	0.0251	EPA 200.8	04/04/2013
28	[redacted]	A	03/22/2013	0.0255	EPA 200.8	04/05/2013
29	[redacted]	A	03/22/2013	0.0258	EPA 200.8	04/03/2013
30	[redacted]	D	03/21/2013	0.0261	EPA 200.8	03/26/2013
31	[redacted]	A	03/22/2013	0.0262	EPA 200.8	04/04/2013

SEE END OF THE LEAD REPORT FOR LOCATION TYPES AND CERTIFICATIONS.
NOTE: THIS FORM IS UNACCEPTABLE WITHOUT THE APPROPRIATE AUTHORIZED SIGNATURE.

Exemption 6

CONTINUATION SHEET - COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

CU

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
32	[redacted]	E	03/15/2013	0.0264	EPA 200.8	03/26/2013
33	[redacted]	A	03/22/2013	0.0272	EPA 200.8	04/05/2013
34	[redacted]	B	03/22/2013	0.0286	EPA 200.8	04/04/2013
35	[redacted]	A	03/15/2013	0.0299	EPA 200.8	03/26/2013
36	[redacted]	B	03/15/2013	0.0300	EPA 200.8	03/26/2013
37	[redacted]	A	03/22/2013	0.0301	EPA 200.8	04/03/2013
38	[redacted]	A	03/22/2013	0.0309	EPA 200.8	04/04/2013
39	[redacted]	B	03/15/2013	0.0324	EPA 200.8	03/26/2013
40	[redacted]	B	03/25/2013	0.0326	EPA 200.8	04/05/2013
41	[redacted]	D	03/22/2013	0.0327	EPA 200.8	04/05/2013
42	[redacted]	A	03/26/2013	0.0330	EPA 200.8	04/05/2013
43	[redacted]	A	03/22/2013	0.0334	EPA 200.8	04/03/2013
44	[redacted]	A	03/15/2013	0.0357	EPA 200.8	03/26/2013
45	[redacted]	B	03/15/2013	0.0375	EPA 200.8	03/26/2013
46	[redacted]	E	03/22/2013	0.0395	EPA 200.8	04/04/2013
47	[redacted]	A	03/25/2013	0.0399	EPA 200.8	04/05/2013
48	[redacted]	B	03/22/2013	0.0405	EPA 200.8	04/03/2013
49	[redacted]	A	03/22/2013	0.0436	EPA 200.8	04/04/2013
50	[redacted]	D	03/15/2013	0.0448	EPA 200.8	03/26/2013
51	[redacted]	A	03/19/2013	0.0458	EPA 200.8	03/26/2013
52	[redacted]	D	03/15/2013	0.0463	EPA 200.8	03/26/2013
53	[redacted]	B	03/26/2013	0.0484	EPA 200.8	04/05/2013
54	[redacted]	B	03/19/2013	0.0494	EPA 200.8	03/26/2013
55	[redacted]	B	03/22/2013	0.0497	EPA 200.8	04/04/2013
56	[redacted]	B	03/26/2013	0.0507	EPA 200.8	04/05/2013
57	[redacted]	E	03/14/2013	0.0513	EPA 200.8	03/26/2013
58	[redacted]	A	03/15/2013	0.0524	EPA 200.8	03/26/2013
59	[redacted]	B	03/15/2013	0.0525	EPA 200.8	03/26/2013
60	[redacted]	A	03/22/2013	0.0525	EPA 200.8	04/03/2013
61	[redacted]	A	03/22/2013	0.0527	EPA 200.8	04/03/2013
62	[redacted]	A	03/22/2013	0.0545	EPA 200.8	04/04/2013
63	[redacted]	B	03/22/2013	0.0545	EPA 200.8	04/05/2013
64	[redacted]	B	03/22/2013	0.0546	EPA 200.8	04/03/2013
65	[redacted]	D	03/22/2013	0.0550	EPA 200.8	04/03/2013
66	[redacted]	B	03/22/2013	0.0553	EPA 200.8	04/04/2013
67	[redacted]	D	03/15/2013	0.0569	EPA 200.8	03/26/2013
68	[redacted]	A	03/18/2013	0.0571	EPA 200.8	03/26/2013
69	[redacted]	B	03/15/2013	0.0575	EPA 200.8	03/26/2013
70	[redacted]	A	03/22/2013	0.0582	EPA 200.8	04/05/2013
71	[redacted]	D	03/15/2013	0.0593	EPA 200.8	03/26/2013
72	[redacted]	D	03/15/2013	0.0599	EPA 200.8	03/26/2013
73	[redacted]	A	03/22/2013	0.0627	EPA 200.8	04/05/2013
74	[redacted]	A	03/22/2013	0.0631	EPA 200.8	04/04/2013
75	[redacted]	A	03/22/2013	0.0667	EPA 200.8	04/04/2013
76	[redacted]	A	03/22/2013	0.0671	EPA 200.8	04/04/2013
77	[redacted]	D	03/15/2013	0.0690	EPA 200.8	03/26/2013
78	[redacted]	A	03/22/2013	0.0699	EPA 200.8	04/04/2013
79	[redacted]	B	03/22/2013	0.0702	EPA 200.8	04/03/2013
80	[redacted]	A	03/20/2013	0.0706	EPA 200.8	03/26/2013
81	[redacted]	A	03/15/2013	0.0713	EPA 200.8	03/26/2013

Exemption 6

CONTINUATION SHEET - COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

CU

ıple Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
82	[redacted]	D	03/25/2013	0.0721	EPA 200.8	04/05/2013
83	[redacted]	A	03/22/2013	0.0727	EPA 200.8	04/03/2013
84	[redacted]	B	03/22/2013	0.0745	EPA 200.8	04/04/2013
85	[redacted]	D	03/15/2013	0.0787	EPA 200.8	04/12/2013
86	[redacted]	B	03/19/2013	0.0801	EPA 200.8	03/26/2013
87	[redacted]	A	03/22/2013	0.0846	EPA 200.8	04/04/2013
88	[redacted]	A	03/22/2013	0.0851	EPA 200.8	04/04/2013
89	[redacted]	B	03/22/2013	0.0862	EPA 200.8	04/04/2013
90	[redacted]	A	03/22/2013	0.0875	EPA 200.8	04/04/2013
91	[redacted]	A	03/22/2013	0.0881	EPA 200.8	04/04/2013
92	[redacted]	A	03/22/2013	0.0928	EPA 200.8	04/04/2013
93	[redacted]	B	03/22/2013	0.0942	EPA 200.8	04/03/2013
94	[redacted]	E	03/15/2013	0.0957	EPA 200.8	03/26/2013
95	[redacted]	B	03/22/2013	0.0964	EPA 200.8	04/05/2013
96	[redacted]	A	03/22/2013	0.0970	EPA 200.8	04/04/2013
97	[redacted]	A	03/22/2013	0.0977	EPA 200.8	04/04/2013
98	[redacted]	A	03/22/2013	0.1004	EPA 200.8	04/04/2013
99	[redacted]	A	03/19/2013	0.1004	EPA 200.8	03/26/2013
100	[redacted]	B	03/21/2013	0.1049	EPA 200.8	04/03/2013
101	[redacted]	A	03/22/2013	0.1052	EPA 200.8	04/03/2013
102	[redacted]	B	03/22/2013	0.1071	EPA 200.8	04/05/2013
103	[redacted]	B	03/22/2013	0.1076	EPA 200.8	04/04/2013
104	[redacted]	A	03/22/2013	0.1181	EPA 200.8	04/03/2013
05	[redacted]	A	03/18/2013	0.1232	EPA 200.8	03/26/2013
106	[redacted]	A	03/22/2013	0.1634	EPA 200.8	04/03/2013
107	[redacted]	A	03/28/2013	0.2360	EPA 200.8	04/12/2013
108	[redacted]	D	03/22/2013	0.2562	EPA 200.8	04/04/2013
109	[redacted]	A	03/26/2013	0.2638	EPA 200.8	04/05/2013

LOC TYPE	DESCRIPTION	TIER
A	Lead Service Lines	1
B	Single Family Structures with Copper Pipe & Lead Solder installed after 1982	1
C	Building & Multifamily Residences with Copper Pipes & Lead Solder installed after 1982	2
D	Building & Multifamily Residences containing Lead Pipes or Service Lines	2
E	Single Family Structures that contain Copper Pipe with Lead Solder installed before 1983	3
F	Other	3

I certify that each first draw sample collected by the water system is on-liter in volume and, to the best of my knowledge, has stood motionless in the service line, or in the interior plumbing of a sample site, for at least six hours; and if residents collected the samples, I certify that each tap sample collected by the residents was taken after the water system informed them of proper sampling procedures specified in 141,86(b) (2).

SIGNATURE _____

PRINT NAME _____

TITLE _____

DATE _____

TEL. NO. _____

Exemption 6

New Jersey Department of Environmental Protection

Bureau of Safe Drinking Water
CN 426, Trenton, NJ 08625-0426
(609) 292-5550

PB

LEAD ANALYSIS INPUT FORM

System Name: Passaic Valley Water Commission
Address: 1525 Main Avenue
City: Clifton
State: NJ
Zip: 07011

PWS ID#: NJ1605002
Laboratory ID#: 07010
Laboratory Name: APL

Number of Distribution Tap Samples Required: 95
Number Taken: 95
Multiply Number Taken by 0.9, Enter Here: 86
Lead Results at the Location of the Above Sample Number*: 0.0144 (This is the 90th Percentile) mg/L - ActionLevel = 0.015 mg/L

Lead Action Level Exceeded, Check Here ☐

*IF TAKING 5 SAMPLES PER PERIOD, AVERAGE THE HIGHEST AND 2ND HIGHEST CONCENTRATIONS TO DETERMINE 90TH PERCENTILE

List the results of all lead samples taken during the six -month monitoring period in acsending order from the sample with the lowest concentration to the sample with the highest concentration.

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
1	[redacted]	D	06/14/2014	<0.0005	EPA 200.8	6/19/14
2	[redacted]	B	06/20/2014	<0.0005	EPA 200.8	7/3/14
3	[redacted]	A	06/20/2014	<0.0005	EPA 200.8	7/2/14
4	[redacted]	D	06/20/2014	<0.0005	EPA 200.8	7/2/14
5	[redacted]	A	06/20/2014	<0.0005	EPA 200.8	7/2/14
6	[redacted]	B	06/20/2014	<0.0005	EPA 200.8	7/2/14
7	[redacted]	A	06/20/2014	<0.0005	EPA 200.8	7/2/14
8	[redacted]	B	06/20/2014	<0.0005	EPA 200.8	7/2/14
9	[redacted]	B	06/20/2014	<0.0005	EPA 200.8	7/2/14
10	[redacted]	B	06/13/2014	0.0005	EPA 200.8	6/19/14
11	[redacted]	E	06/20/2014	0.0006	EPA 200.8	7/2/14
12	[redacted]	B	06/20/2014	0.0006	EPA 200.8	7/2/14
13	[redacted]	B	06/20/2014	0.0007	EPA 200.8	7/2/14
14	[redacted]	A	06/20/2014	0.0007	EPA 200.8	7/3/14
15	[redacted]	B	06/20/2014	0.0008	EPA 200.8	7/2/14
16	[redacted]	B	06/13/2014	0.0008	EPA 200.8	6/19/14
17	[redacted]	D	06/16/2014	0.0009	EPA 200.8	6/19/14
18	[redacted]	B	06/13/2014	0.0009	EPA 200.8	6/19/14
19	[redacted]	B	06/20/2014	0.0010	EPA 200.8	7/2/14
20	[redacted]	A	06/27/2014	0.0010	EPA 200.8	7/9/14
21	[redacted]	B	06/20/2014	0.0011	EPA 200.8	7/2/14
22	[redacted]	B	06/20/2014	0.0011	EPA 200.8	7/2/14
23	[redacted]	B	06/13/2014	0.0012	EPA 200.8	6/19/14
24	[redacted]	A	06/20/2014	0.0012	EPA 200.8	7/2/14
25	[redacted]	B	06/20/2014	0.0013	EPA 200.8	7/2/14
26	[redacted]	A	06/20/2014	0.0014	EPA 200.8	7/2/14
27	[redacted]	B	06/20/2014	0.0014	EPA 200.8	7/2/14
28	[redacted]	B	06/20/2014	0.0016	EPA 200.8	7/2/14
29	[redacted]	A	06/20/2014	0.0016	EPA 200.8	7/3/14
30	[redacted]	B	06/20/2014	0.0017	EPA 200.8	7/2/14
31	[redacted]	A	06/20/2014	0.0017	EPA 200.8	7/2/14
32	[redacted]	B	06/20/2014	0.0018	EPA 200.8	7/2/14

SEE END OF THE LEAD REPORT FOR LOCATION TYPES AND CERTIFICATIONS.
NOTE: THIS FORM IS UNACCEPTABLE WITHOUT THE APPROPRIATE AUTHORIZED SIGNATURE.

Exemption 6

CONTINUATION SHEET - LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

PB

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
33	[redacted]	D	06/13/2014	0.0019	EPA 200.8	6/19/14
34	[redacted]	A	06/20/2014	0.0020	EPA 200.8	7/2/14
35	[redacted]	B	06/13/2014	0.0020	EPA 200.8	6/19/14
36	[redacted]	D	06/23/2014	0.0021	EPA 200.8	7/3/14
37	[redacted]	B	06/20/2014	0.0021	EPA 200.8	7/2/14
38	[redacted]	D	06/17/2014	0.0023	EPA 200.8	6/19/14
39	[redacted]	D	06/13/2014	0.0024	EPA 200.8	6/19/14
40	[redacted]	B	06/20/2014	0.0025	EPA 200.8	7/2/14
41	[redacted]	B	06/20/2014	0.0025	EPA 200.8	7/2/14
42	[redacted]	A	06/25/2014	0.0026	EPA 200.8	7/9/14
43	[redacted]	A	06/20/2014	0.0028	EPA 200.8	7/2/14
44	[redacted]	A	06/20/2014	0.0028	EPA 200.8	7/2/14
45	[redacted]	D	06/13/2014	0.0029	EPA 200.8	6/19/14
46	[redacted]	A	06/13/2014	0.0030	EPA 200.8	6/19/14
47	[redacted]	D	06/20/2014	0.0030	EPA 200.8	7/2/14
48	[redacted]	B	06/20/2014	0.0030	EPA 200.8	7/2/14
49	[redacted]	A	06/13/2014	0.0033	EPA 200.8	6/19/14
50	[redacted]	A	06/13/2014	0.0037	EPA 200.8	6/19/14
51	[redacted]	A	06/20/2014	0.0037	EPA 200.8	7/2/14
52	[redacted]	A	06/20/2014	0.0039	EPA 200.8	7/2/14
53	[redacted]	A	06/13/2014	0.0043	EPA 200.8	6/19/14
54	[redacted]	A	06/20/2014	0.0045	EPA 200.8	7/2/14
55	[redacted]	A	06/20/2014	0.0045	EPA 200.8	7/2/14
56	[redacted]	D	06/20/2014	0.0046	EPA 200.8	7/2/14
57	[redacted]	A	06/24/2014	0.0048	EPA 200.8	7/3/14
58	[redacted]	A	06/13/2014	0.0049	EPA 200.8	6/19/14
59	[redacted]	E	06/13/2014	0.0051	EPA 200.8	6/19/14
60	[redacted]	A	06/20/2014	0.0057	EPA 200.8	7/2/14
61	[redacted]	A	06/25/2014	0.0058	EPA 200.8	7/9/14
62	[redacted]	A	06/20/2014	0.0060	EPA 200.8	7/3/14
63	[redacted]	A	06/20/2014	0.0061	EPA 200.8	7/2/14
64	[redacted]	A	06/20/2014	0.0062	EPA 200.8	7/2/14
65	[redacted]	A	06/17/2014	0.0062	EPA 200.8	6/19/14
66	[redacted]	D	06/20/2014	0.0064	EPA 200.8	7/2/14
67	[redacted]	A	06/13/2014	0.0065	EPA 200.8	6/19/14
68	[redacted]	A	06/20/2014	0.0065	EPA 200.8	7/2/14
69	[redacted]	E	06/13/2014	0.0066	EPA 200.8	6/19/14
70	[redacted]	A	06/20/2014	0.0067	EPA 200.8	7/2/14
71	[redacted]	A	06/20/2014	0.0068	EPA 200.8	7/2/14
72	[redacted]	D	06/13/2014	0.0072	EPA 200.8	6/19/14
73	[redacted]	A	06/13/2014	0.0075	EPA 200.8	6/19/14
74	[redacted]	A	06/13/2014	0.0078	EPA 200.8	6/19/14
75	[redacted]	B	06/20/2014	0.0078	EPA 200.8	7/2/14
76	[redacted]	A	06/24/2014	0.0080	EPA 200.8	7/3/14
77	[redacted]	A	07/01/2014	0.0086	EPA 200.8	7/9/14
78	[redacted]	A	07/01/2014	0.0088	EPA 200.8	7/9/14
79	[redacted]	A	06/24/2014	0.0089	EPA 200.8	7/3/14
80	[redacted]	A	06/13/2014	0.0096	EPA 200.8	6/19/14
81	[redacted]	A	06/20/2014	0.0104	EPA 200.8	7/2/14
82	[redacted]	B	06/20/2014	0.0106	EPA 200.8	7/2/14

Exemption 6

CONTINUATION SHEET - LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

PB

mple Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
83	[redacted]	A	06/23/2014	0.0107	EPA 200.8	7/3/14
84	[redacted]	D	06/23/2014	0.0116	EPA 200.8	7/3/14
85	[redacted]	A	06/20/2014	0.0136	EPA 200.8	7/2/14
86	[redacted]	D	06/20/2014	0.0144	EPA 200.8	7/2/14
87	[redacted]	A	06/18/2014	0.0150	EPA 200.8	7/2/14
88	[redacted]	A	06/13/2014	0.0155	EPA 200.8	6/19/14
89	[redacted]	A	06/20/2014	0.0156	EPA 200.8	7/2/14
90	[redacted]	A	06/19/2014	0.0194	EPA 200.8	7/3/14
91	[redacted]	A	06/23/2014	0.0214	EPA 200.8	7/3/14
92	[redacted]	E	06/13/2014	0.0253	EPA 200.8	6/19/14
93	[redacted]	D	06/13/2014	0.0444	EPA 200.8	6/19/14
94	[redacted]	A	06/30/2014	0.0449	EPA 200.8	7/9/14
95	[redacted]	A	06/20/2014	0.0455	EPA 200.8	7/2/14

LOC TYPE	DESCRIPTION	TIER
A	Lead Service Lines	1
B	Single Family Structures with Copper Pipe & Lead Solder installed after 1982	1
C	Building & Multifamily Residences with Copper Pipes & Lead Solder installed after 1982	2
D	Building & Multifamily Residences containing Lead Pipes or Service Lines	2
E	Single Family Structures that contain Copper Pipe with Lead Solder installed before 1983	3
F	Other	3

I certify that each first draw sample collected by the water system is one-liter in volume and, to the best of my knowledge, has stood motionless in the service line, or in the interior plumbing of a sample site, for at least six hours; and if residents collected the samples, I certify that each tap sample collected by the residents was taken after the water system informed them of proper sampling procedures specified in 141,86(b) (2).

SIGNATURE _____

PRINT NAME _____

TITLE _____

DATE _____

TEL. NO. _____

Exemption 6

New Jersey Department of Environmental Protection

Bureau of Safe Drinking Water
CN 426, Trenton, NJ 08625-0426
(609) 292-5550

CU

COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission
Address 1525 Main Avenue
City Clifton
State NJ Zip 07011

PWS ID# NJ1605002
Laboratory ID# 07010
Laboratory Name APL

Number of Distribution Tap Samples Required 95
Multiply Number Taken by 0.9, Enter Here 86
Number Taken 95
Copper Results at the Location of the Above Sample Number* 0.1123 (This is the 90th Percentile) mg/L - Action Level = 1.3 mg/L

Copper Action Level Exceeded, Check Here ☐

*IF TAKING 5 SAMPLES PER PERIOD, AVERAGE THE HIGHEST AND 2ND HIGHEST CONCENTRATIONS TO DETERMINE 90TH PERCENTILE.

List the results of all lead samples taken during the six -month monitoring period in acsending order from the sample with the lowest concentration to the sample with the highest concentration.

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
1	[redacted]	A	06/23/2014	0.0017	EPA 200.8	07/03/2014
2	[redacted]	D	06/20/2014	0.0068	EPA 200.8	07/02/2014
3	[redacted]	A	06/20/2014	0.0077	EPA 200.8	07/02/2014
4	[redacted]	A	06/20/2014	0.0084	EPA 200.8	07/02/2014
5	[redacted]	A	06/20/2014	0.0101	EPA 200.8	07/02/2014
6	[redacted]	D	06/20/2014	0.0102	EPA 200.8	07/02/2014
7	[redacted]	D	06/16/2014	0.0121	EPA 200.8	06/19/2014
8	[redacted]	B	06/20/2014	0.0130	EPA 200.8	07/02/2014
9	[redacted]	A	06/20/2014	0.0140	EPA 200.8	07/02/2014
10	[redacted]	B	06/13/2014	0.0147	EPA 200.8	06/19/2014
11	[redacted]	D	06/13/2014	0.0147	EPA 200.8	06/19/2014
12	[redacted]	A	06/20/2014	0.0164	EPA 200.8	07/02/2014
13	[redacted]	B	06/20/2014	0.0164	EPA 200.8	07/02/2014
14	[redacted]	A	06/25/2014	0.0171	EPA 200.8	07/09/2014
15	[redacted]	A	06/20/2014	0.0191	EPA 200.8	07/02/2014
16	[redacted]	B	06/20/2014	0.0192	EPA 200.8	07/02/2014
17	[redacted]	B	06/20/2014	0.0195	EPA 200.8	07/02/2014
18	[redacted]	E	06/20/2014	0.0201	EPA 200.8	07/02/2014
19	[redacted]	D	06/13/2014	0.0209	EPA 200.8	06/19/2014
20	[redacted]	A	06/24/2014	0.0220	EPA 200.8	07/03/2014
21	[redacted]	B	06/20/2014	0.0228	EPA 200.8	07/02/2014
22	[redacted]	A	06/20/2014	0.0233	EPA 200.8	07/02/2014
23	[redacted]	D	06/13/2014	0.0241	EPA 200.8	06/19/2014
24	[redacted]	A	06/20/2014	0.0242	EPA 200.8	07/02/2014
25	[redacted]	B	06/13/2014	0.0246	EPA 200.8	06/19/2014
26	[redacted]	A	06/20/2014	0.0266	EPA 200.8	07/02/2014
27	[redacted]	A	06/20/2014	0.0266	EPA 200.8	07/02/2014
28	[redacted]	A	06/13/2014	0.0275	EPA 200.8	06/19/2014
29	[redacted]	A	06/20/2014	0.0276	EPA 200.8	07/02/2014
30	[redacted]	A	06/13/2014	0.0277	EPA 200.8	06/19/2014
31	[redacted]	A	06/20/2014	0.0339	EPA 200.8	07/02/2014

SEE END OF THE LEAD REPORT FOR LOCATION TYPES AND CERTIFICATIONS.
NOTE: THIS FORM IS UNACCEPTABLE WITHOUT THE APPROPRIATE AUTHORIZED SIGNATURE.

Exemption 6

CONTINUATION SHEET - COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

CU

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
32	[redacted]	D	06/13/2014	0.0349	EPA 200.8	06/19/2014
33	[redacted]	B	06/13/2014	0.0350	EPA 200.8	06/19/2014
34	[redacted]	A	06/30/2014	0.0352	EPA 200.8	07/09/2014
35	[redacted]	A	07/01/2014	0.0354	EPA 200.8	07/09/2014
36	[redacted]	B	06/20/2014	0.0373	EPA 200.8	07/02/2014
37	[redacted]	B	06/13/2014	0.0377	EPA 200.8	06/19/2014
38	[redacted]	B	06/20/2014	0.0378	EPA 200.8	07/02/2014
39	[redacted]	A	06/13/2014	0.0378	EPA 200.8	06/19/2014
40	[redacted]	D	06/14/2014	0.0392	EPA 200.8	06/19/2014
41	[redacted]	D	06/20/2014	0.0394	EPA 200.8	07/02/2014
42	[redacted]	A	06/25/2014	0.0398	EPA 200.8	07/09/2014
43	[redacted]	A	06/20/2014	0.0398	EPA 200.8	07/02/2014
44	[redacted]	A	06/13/2014	0.0401	EPA 200.8	06/19/2014
45	[redacted]	A	06/24/2014	0.0402	EPA 200.8	07/03/2014
46	[redacted]	B	06/20/2014	0.0408	EPA 200.8	07/02/2014
47	[redacted]	A	06/13/2014	0.0410	EPA 200.8	06/19/2014
48	[redacted]	A	06/20/2014	0.0422	EPA 200.8	07/02/2014
49	[redacted]	B	06/20/2014	0.0456	EPA 200.8	07/02/2014
50	[redacted]	A	06/20/2014	0.0474	EPA 200.8	07/02/2014
51	[redacted]	E	06/13/2014	0.0494	EPA 200.8	06/19/2014
52	[redacted]	A	06/13/2014	0.0521	EPA 200.8	06/19/2014
53	[redacted]	A	06/23/2014	0.0531	EPA 200.8	07/03/2014
54	[redacted]	B	06/20/2014	0.0535	EPA 200.8	07/02/2014
55	[redacted]	A	06/20/2014	0.0547	EPA 200.8	07/02/2014
56	[redacted]	E	06/13/2014	0.0573	EPA 200.8	06/19/2014
57	[redacted]	E	06/13/2014	0.0578	EPA 200.8	06/19/2014
58	[redacted]	A	06/20/2014	0.0583	EPA 200.8	07/02/2014
59	[redacted]	A	06/13/2014	0.0585	EPA 200.8	06/19/2014
60	[redacted]	B	06/20/2014	0.0589	EPA 200.8	07/02/2014
61	[redacted]	B	06/20/2014	0.0603	EPA 200.8	07/02/2014
62	[redacted]	B	06/13/2014	0.0607	EPA 200.8	06/19/2014
63	[redacted]	A	06/20/2014	0.0608	EPA 200.8	07/02/2014
64	[redacted]	A	06/24/2014	0.0617	EPA 200.8	07/03/2014
65	[redacted]	A	06/13/2014	0.0618	EPA 200.8	06/19/2014
66	[redacted]	D	06/20/2014	0.0624	EPA 200.8	07/02/2014
67	[redacted]	D	06/23/2014	0.0670	EPA 200.8	07/03/2014
68	[redacted]	B	06/20/2014	0.0677	EPA 200.8	07/02/2014
69	[redacted]	D	06/17/2014	0.0721	EPA 200.8	06/19/2014
70	[redacted]	B	06/20/2014	0.0740	EPA 200.8	07/03/2014
71	[redacted]	A	06/20/2014	0.0763	EPA 200.8	07/02/2014
72	[redacted]	B	06/20/2014	0.0774	EPA 200.8	07/02/2014
73	[redacted]	B	06/20/2014	0.0794	EPA 200.8	07/02/2014
74	[redacted]	B	06/20/2014	0.0812	EPA 200.8	07/02/2014
75	[redacted]	B	06/20/2014	0.0842	EPA 200.8	07/02/2014
76	[redacted]	A	06/19/2014	0.0844	EPA 200.8	07/03/2014
77	[redacted]	A	06/17/2014	0.0851	EPA 200.8	06/19/2014
78	[redacted]	A	06/20/2014	0.0856	EPA 200.8	07/02/2014
79	[redacted]	B	06/20/2014	0.0858	EPA 200.8	07/02/2014
80	[redacted]	A	06/18/2014	0.0878	EPA 200.8	07/02/2014
81	[redacted]	A	06/20/2014	0.0917	EPA 200.8	07/03/2014

Exemption 6

CONTINUATION SHEET - COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

CU

mple Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
82	[redacted]	A	06/20/2014	0.0926	EPA 200.8	07/02/2014
83	[redacted]	A	06/13/2014	0.0950	EPA 200.8	06/19/2014
84	[redacted]	A	06/13/2014	0.0984	EPA 200.8	06/19/2014
85	[redacted]	D	06/20/2014	0.1017	EPA 200.8	07/02/2014
86	[redacted]	A	06/20/2014	0.1123	EPA 200.8	07/03/2014
87	[redacted]	D	06/23/2014	0.1165	EPA 200.8	07/03/2014
88	[redacted]	A	07/01/2014	0.1276	EPA 200.8	07/09/2014
89	[redacted]	B	06/20/2014	0.1297	EPA 200.8	07/02/2014
90	[redacted]	A	06/20/2014	0.1384	EPA 200.8	07/02/2014
91	[redacted]	A	06/20/2014	0.1456	EPA 200.8	07/02/2014
92	[redacted]	D	06/13/2014	0.1651	EPA 200.8	06/19/2014
93	[redacted]	B	06/20/2014	0.2376	EPA 200.8	07/02/2014
94	[redacted]	A	06/27/2014	0.2424	EPA 200.8	07/09/2014
95	[redacted]	A	06/20/2014	0.2866	EPA 200.8	07/03/2014

LOC TYPE	DESCRIPTION	TIER
A	Lead Service Lines	1
B	Single Family Structures with Copper Pipe & Lead Solder installed after 1982	1
C	Building & Multifamily Residences with Copper Pipes & Lead Solder installed after 1982	2
D	Building & Multifamily Residences containing Lead Pipes or Service Lines	2
E	Single Family Structures that contain Copper Pipe with Lead Solder installed before 1983	3
F	Other	3

I certify that each first draw sample collected by the water system is on-liter in volume and, to the best of my knowledge, has stood motionless in the service line, or in the interior plumbing of a sample site, for at least six hours; and if residents collected the samples, I certify that each tap sample collected by the residents was taken after the water system informed them of proper sampling procedures specified in 141,86(b) (2).

SIGNATURE _____

PRINT NAME _____

TITLE _____

DATE _____

TEL. NO. _____

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code 401-04Q
Division of Water Supply & Geoscience
Water System Operations Element
Bureau of Safe Drinking Water
401 E. State Street - P.O. Box 420
Trenton, New Jersey 08625-0420
Tel #: (609) 292-5550 - Fax #: (609) 633-1495
http://www.nj.gov/dep/watersupply/

CHRIS CHRISTIE
GOVERNOR

KIM GUADAGNO
LT. GOVERNOR

BOB MARTIN
Commissioner

February 24, 2014

Mr. Joseph Bella
Passaic Valley Water Commission
P.O. Box 230
Clifton, NJ 07011

RE: Reduced Lead and Copper Monitoring - Annual
Passaic Valley Water Commission
PWSID: NJ1605002
Letter#: WWR140001

Dear Mr. Joseph Bella:

Please be advised that your system qualifies for annual monitoring. Samples collected in **March** (1st half 2013), and **September/October** (2nd half 2013) confirmed that lead and copper results were below their respective action levels at the 90th percentile. Therefore, the sampling frequency for lead and copper is being reduced to once per year in accordance with 40 CFR 141.86 (c) & (d)(4)(i)*.

Lead and copper sampling is next due in 2014, with sample collection occurring between June 1st and September 30th. The number of samples required for each system is based on the population served. Our records indicate that your system's residential population is **314,900** persons. **A minimum of fifty (50) lead and copper samples are required in 2014.**

The reduced number of samples must be taken from the pool of targeted sampling sites utilized during initial tap sampling. We recommend that your select either all of the odd or even number sites utilized during initial monitoring. Of course, if your initial tap sampling only consisted of 5 sites, they all must be sampled.

If the lead and/or copper action levels are exceeded in the future, your system must resume standard semi-annual (6-month) monitoring and take appropriate follow-up actions to comply with the applicable action level in accordance with 40 CFR 141.80 et seq.

If you have questions about this sampling change, please do not hesitate to contact me at (609) 292-5550 or Paul.Smith@dep.state.nj.us. When contacting the Bureau, reference PWSID# 1605002 and Letter# WWR140001. Check your monitoring schedule at www.nj.gov/dep/watersupply/waterwatch.

Sincerely,

Paul Smith, Supervisor
Bureau of Safe Drinking Water

Enclosure

* To locate citations: United States Code of Federal Regulations (CFR), see http://www.gpoaccess.gov/cfr/index.html. New Jersey Statutes Annotated (NJSA): Click on the STATUTES link at http://www.njleg.state.nj.us/. New Jersey Administrative Code (NJAC): http://www.nj.gov/dep/rules/rules/njac7_10.pdf.

Exemption 6

Monitoring Schedule for PASSAIC VALLEY WATER COMMISSION (NJ1605002)

Routine Total Coliform Bacteria Schedules

Schedule Start Date	Schedule End Date	Required Months to Sample In	Sampling Requirements
01/01/1991	Continuous	1/1--12/31	150 Routine Sample(s)/Month

Stage 2 DBP Schedules

DBP	Sample Point ID	Site Description	Start Date	End Date	Warmest Month	Required Months to Sample In	Routine Sampling Requirements
HAA5	H-2	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	H-2	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	D-48	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	D-48	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	D-28	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	D-28	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	T-4	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	T-4	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	T-1	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	T-1	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	D-25	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	D-25	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	T-7	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	T-7	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	T-5	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	T-5	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	T-8	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	T-8	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	T-3	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	T-3	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	A-2	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	A-2	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
HAA5	E-3	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT
TTHM	E-3	[redacted]	04/01/2012	Continuous	8/1--8/31	May, August, November, February	1 Sample(s) per QT

Contaminant Group Schedules

Sample Point ID	Analyte Group	Schedule Start Date	Schedule End Date	Required Months to Sample In	Required Year to Sample In	Sampling Requirements
DS	IRON-MANGANESE	01/01/2003	Continuous	1/1-12/31	2014	5 Sample(s)/Year
DS	LEAD AND COPPER	01/01/2014	Continuous	6/1--9/30	2014	50 Sample(s)/Year
DS	WATER QUALITY V2	07/01/2013	Continuous	1/1-12/31	2014	2 Sample(s)/Every 6 months

IN001004	DBP PRECURSOR	01/01/2002	Continuous	1/1-12/31	2014	1 Sample(s)/Month
TP001002	INORGANICS	01/01/2003	Continuous	1/1-12/31	2014	1 Sample(s)/Year
TP001002	RADIOLOGICALS	01/01/2008	Continuous	1/1-12/31	2014	1 Sample(s)/9 year period
TP001002	SECONDARY	01/01/2003	Continuous	1/1-12/31	2014	1 Sample(s)/Year
TP001002	VOCS FEDERAL	01/01/2006	Continuous	7/1--9/30	2014	1 Sample(s)/Year
TP001002	VOCS STATE	01/01/2006	Continuous	7/1--9/30	2014	1 Sample(s)/Year

Individual Contaminant Schedules

Sample Point ID	Analyte Name	Schedule Start Date	Schedule End Date	Required Months to Sample In	Required Year to Sample In	Sampling Requirements
TP001002	TURBIDITY	01/01/2002	Continuous	1/1-12/31	2014	Unavailable
TP001002	BROMATE	01/01/2006	Continuous	1/1-12/31	2014	Unavailable
TP001002	NITRATE	10/01/2007	Continuous	1/1-12/31	2014	1 Sample(s)/Quarter
TP001002	SODIUM	07/01/2005	Continuous	1/1-12/31	2014	1 Sample(s)/Quarter
TP001002	CARBON, TOTAL	01/01/2002	Continuous	1/1-12/31	2014	Unavailable

Printed: Mon Feb 24 13:16:20 EST 2014

Exemption 6

New Jersey Department of Environmental Protection

Bureau of Safe Drinking Water
CN 426, Trenton, NJ 08625-0426
(609) 292-5550

PB

LEAD ANALYSIS INPUT FORM

System Name: Passaic Valley Water Commission
Address: 1525 Main Avenue
City: Clifton
State: NJ
Zip: 07011

PWS ID#: NJ1605002
Laboratory ID#: 07010
Laboratory Name: APL

Number of Distribution Tap Samples Required: 107
Number Taken: 107
Multiply Number Taken by 0.9, Enter Here: 96
Lead Results at the Location of the Above Sample Number*: 0.0164 (This is the 90th Percentile)
mg/L - ActionLevel = 0.015 mg/L

Lead Action Level Exceeded, Check Here: X

*IF TAKING 5 SAMPLES PER PERIOD, AVERAGE THE HIGHEST AND 2ND HIGHEST CONCENTRATIONS TO DETERMINE 90TH PERCENTILE.

List the results of all lead samples taken during the six -month monitoring period in acsending order from the sample with the lowest concentration to the sample with the highest concentration.

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
1	[redacted]	B	06/19/2015	<0.0005	EPA 200.8	7/7/15
2	[redacted]	B	06/22/2015	<0.0005	EPA 200.8	7/7/15
3	[redacted]	B	06/19/2015	<0.0005	EPA 200.8	7/7/15
4	[redacted]	B	06/19/2015	<0.0005	EPA 200.8	7/7/15
5	[redacted]	B	06/19/2015	<0.0005	EPA 200.8	7/7/15
6	[redacted]	B	06/19/2015	<0.0005	EPA 200.8	7/22/15
7	[redacted]	A	09/18/2015	<0.0005	EPA 200.8	9/24/15
8	[redacted]	D	06/19/2015	<0.0005	EPA 200.8	7/7/15
9	[redacted]	A	09/20/2015	<0.0005	EPA 200.8	9/24/15
10	[redacted]	A	06/19/2015	<0.0005	EPA 200.8	7/7/15
11	[redacted]	B	06/17/2015	<0.0005	EPA 200.8	6/29/15
12	[redacted]	A	06/19/2015	<0.0005	EPA 200.8	7/1/15
13	[redacted]	B	06/12/2015	0.0005	EPA 200.8	6/26/15
14	[redacted]	D	06/23/2015	0.0005	EPA 200.8	7/7/15
15	[redacted]	B	06/18/2015	0.0006	EPA 200.8	7/7/15
16	[redacted]	A	06/19/2015	0.0006	EPA 200.8	7/7/15
17	[redacted]	B	06/19/2015	0.0006	EPA 200.8	7/7/15
18	[redacted]	B	06/15/2015	0.0006	EPA 200.8	6/29/15
19	[redacted]	B	06/12/2015	0.0007	EPA 200.8	6/26/15
20	[redacted]	B	06/19/2015	0.0007	EPA 200.8	7/7/15
21	[redacted]	A	06/19/2015	0.0007	EPA 200.8	7/7/15
22	[redacted]	A	06/19/2015	0.0008	EPA 200.8	7/7/15
23	[redacted]	B	06/19/2015	0.0010	EPA 200.8	7/7/15
24	[redacted]	B	06/19/2015	0.0010	EPA 200.8	7/7/15
25	[redacted]	B	06/19/2015	0.0011	EPA 200.8	7/7/15
26	[redacted]	A	07/02/2015	0.0011	EPA 200.8	7/15/15
27	[redacted]	B	06/12/2015	0.0012	EPA 200.8	6/26/15
28	[redacted]	B	06/19/2015	0.0012	EPA 200.8	7/7/15
29	[redacted]	A	09/30/2015	0.0013	EPA 200.8	10/8/15
30	[redacted]	D	06/12/2015	0.0013	EPA 200.8	6/26/15
31	[redacted]	B	06/26/2015	0.0013	EPA 200.8	7/8/15
32	[redacted]	A	09/18/2015	0.0014	EPA 200.8	9/24/15

SEE END OF THE LEAD REPORT FOR LOCATION TYPES AND CERTIFICATIONS.
NOTE: THIS FORM IS UNACCEPTABLE WITHOUT THE APPROPRIATE AUTHORIZED SIGNATURE.

Exemption 6

CONTINUATION SHEET - LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

PB

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
33	[redacted]	B	06/23/2015	0.0014	EPA 200.8	7/7/15
34	[redacted]	A	06/19/2015	0.0014	EPA 200.8	7/7/15
35	[redacted]	B	06/12/2015	0.0015	EPA 200.8	6/26/15
36	[redacted]	A	06/19/2015	0.0020	EPA 200.8	7/7/15
37	[redacted]	A	06/19/2015	0.0024	EPA 200.8	7/1/15
38	[redacted]	B	06/19/2015	0.0024	EPA 200.8	7/1/15
39	[redacted]	A	09/18/2015	0.0027	EPA 200.8	9/24/15
40	[redacted]	B	06/19/2015	0.0029	EPA 200.8	7/7/15
41	[redacted]	A	09/21/2015	0.0030	EPA 200.8	9/24/15
42	[redacted]	D	06/17/2015	0.0030	EPA 200.8	7/1/15
43	[redacted]	D	06/12/2015	0.0030	EPA 200.8	6/26/15
44	[redacted]	A	06/19/2015	0.0034	EPA 200.8	7/7/15
45	[redacted]	D	06/19/2015	0.0035	EPA 200.8	7/7/15
46	[redacted]	A	06/19/2015	0.0035	EPA 200.8	7/1/15
47	[redacted]	D	06/12/2015	0.0035	EPA 200.8	6/26/15
48	[redacted]	A	06/19/2015	0.0038	EPA 200.8	7/1/15
49	[redacted]	A	06/19/2015	0.0038	EPA 200.8	7/7/15
50	[redacted]	A	06/19/2015	0.0041	EPA 200.8	7/1/15
51	[redacted]	A	06/19/2015	0.0041	EPA 200.8	7/1/15
52	[redacted]	B	06/12/2015	0.0041	EPA 200.8	7/7/15
53	[redacted]	A	06/19/2015	0.0041	EPA 200.8	7/7/15
54	[redacted]	A	06/19/2015	0.0042	EPA 200.8	7/1/15
55	[redacted]	A	06/14/2015	0.0046	EPA 200.8	7/22/15
56	[redacted]	A	06/19/2015	0.0046	EPA 200.8	7/1/15
57	[redacted]	A	06/19/2015	0.0048	EPA 200.8	7/1/15
58	[redacted]	B	06/19/2015	0.0048	EPA 200.8	7/1/15
59	[redacted]	D	06/16/2015	0.0049	EPA 200.8	7/1/15
60	[redacted]	A	06/19/2015	0.0050	EPA 200.8	7/7/15
61	[redacted]	A	09/18/2015	0.0051	EPA 200.8	9/24/15
62	[redacted]	B	06/12/2015	0.0052	EPA 200.8	6/26/15
63	[redacted]	A	06/19/2015	0.0056	EPA 200.8	7/7/15
64	[redacted]	D	06/12/2015	0.0061	EPA 200.8	6/26/15
65	[redacted]	A	09/18/2015	0.0063	EPA 200.8	9/24/15
66	[redacted]	A	06/19/2015	0.0064	EPA 200.8	7/7/15
67	[redacted]	A	06/19/2015	0.0065	EPA 200.8	7/1/15
68	[redacted]	A	09/21/2015	0.0073	EPA 200.8	9/24/15
69	[redacted]	A	09/21/2015	0.0073	EPA 200.8	9/24/15
70	[redacted]	A	06/12/2015	0.0074	EPA 200.8	6/29/15
71	[redacted]	A	06/12/2015	0.0074	EPA 200.8	6/29/15
72	[redacted]	A	06/12/2015	0.0076	EPA 200.8	6/26/15
73	[redacted]	E	06/12/2015	0.0077	EPA 200.8	6/26/15
74	[redacted]	A	06/17/2015	0.0079	EPA 200.8	6/29/15
75	[redacted]	D	06/17/2015	0.0080	EPA 200.8	7/1/15
76	[redacted]	A	06/19/2015	0.0082	EPA 200.8	7/7/15
77	[redacted]	E	06/16/2015	0.0083	EPA 200.8	7/1/15
78	[redacted]	A	09/18/2015	0.0086	EPA 200.8	9/24/15
79	[redacted]	A	06/19/2015	0.0090	EPA 200.8	7/1/15
80	[redacted]	A	06/18/2015	0.0091	EPA 200.8	7/7/15
81	[redacted]	A	06/23/2015	0.0094	EPA 200.8	7/7/15
82	[redacted]	A	09/22/2015	0.0099	EPA 200.8	9/30/15

Exemption 6

CONTINUATION SHEET - LEAD ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

PB

ple Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
83	[redacted]	A	09/21/2015	0.0103	EPA 200.8	9/24/15
84	[redacted]	E	06/17/2015	0.0106	EPA 200.8	6/29/15
85	[redacted]	B	06/18/2015	0.0106	EPA 200.8	7/7/15
86	[redacted]	A	06/19/2015	0.0107	EPA 200.8	7/7/15
87	[redacted]	A	06/19/2015	0.0110	EPA 200.8	7/1/15
88	[redacted]	A	06/21/2015	0.0113	EPA 200.8	7/7/15
89	[redacted]	A	06/12/2015	0.0116	EPA 200.8	6/26/15
90	[redacted]	A	06/19/2015	0.0134	EPA 200.8	7/7/15
91	[redacted]	A	06/22/2015	0.0135	EPA 200.8	7/7/15
92	[redacted]	A	06/19/2015	0.0145	EPA 200.8	7/1/15
93	[redacted]	A	06/19/2015	0.0145	EPA 200.8	7/7/15
94	[redacted]	A	09/23/2015	0.0152	EPA 200.8	9/30/15
95	[redacted]	A	09/18/2015	0.0153	EPA 200.8	9/24/15
96	[redacted]	A	06/18/2015	0.0164	EPA 200.8	7/7/15
97	[redacted]	A	06/12/2015	0.0170	EPA 200.8	6/26/15
98	[redacted]	A	06/19/2015	0.0175	EPA 200.8	7/7/15
99	[redacted]	D	06/12/2015	0.0183	EPA 200.8	6/26/15
100	[redacted]	A	06/12/2015	0.0220	EPA 200.8	6/26/15
101	[redacted]	A	09/21/2015	0.0246	EPA 200.8	9/24/15
102	[redacted]	A	09/18/2015	0.0278	EPA 200.8	9/24/15
103	[redacted]	D	06/15/2015	0.0305	EPA 200.8	7/1/15
104	[redacted]	E	06/12/2015	0.0306	EPA 200.8	6/29/15
105	[redacted]	A	06/24/2015	0.0399	EPA 200.8	7/7/15
06	[redacted]	A	06/19/2015	0.0795	EPA 200.8	7/7/15
107	[redacted]	B	06/19/2015	0.1054	EPA 200.8	7/7/15

LOC TYPE	DESCRIPTION	TIER
A	Lead Service Lines	1
B	Single Family Structures with Copper Pipe & Lead Solder installed after 1982	1
C	Building & Multifamily Residences with Copper Pipes & Lead Solder installed after 1982	2
D	Building & Multifamily Residences containing Lead Pipes or Service Lines	2
E	Single Family Structures that contain Copper Pipe with Lead Solder installed before 1983	3
F	Other	3

I certify that each first draw sample collected by the water system is one-liter in volume and, to the best of my knowledge, has stood motionless in the service line, or in the interior plumbing of a sample site, for at least six hours; and if residents collected the samples, I certify that each tap sample collected by the residents was taken after the water system informed them of proper sampling procedures specified in 141,86(b) (2).

SIGNATURE _____

PRINT NAME _____

TITLE _____

DATE _____

TEL. NO. _____

Exemption 6

New Jersey Department of Environmental Protection

Bureau of Safe Drinking Water
CN 426, Trenton, NJ 08625-0426
(609) 292-5550

CU

COPPER ANALYSIS INPUT FORM

System Name: Passaic Valley Water Commission
Address: 1525 Main Avenue
City: Clifton
State: NJ
Zip: 07011

PWS ID#: NJ1605002
Laboratory ID#: 07010
Laboratory Name: APL

Number of Distribution Tap Samples Required: 107
Number Taken: 107
Multiply Number Taken by 0.9, Enter Here: 96
Copper Results at the Location of the Above Sample Number*: 0.0845 (This is the 90th Percentile) mg/L - Action Level = 1.3 mg/L

Copper Action Level Exceeded, Check Here ☐

*IF TAKING 5 SAMPLES PER PERIOD, AVERAGE THE HIGHEST AND 2ND HIGHEST CONCENTRATIONS TO DETERMINE 90TH PERCENTILE

List the results of all lead samples taken during the six-month monitoring period in ascending order from the sample with the lowest concentration to the sample with the highest concentration.

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
1	[redacted]	B	06/19/2015	0.0066	EPA 200.8	07/07/2015
2	[redacted]	B	06/19/2015	0.0083	EPA 200.8	07/22/2015
3	[redacted]	E	06/16/2015	0.0088	EPA 200.8	07/01/2015
4	[redacted]	A	09/18/2015	0.0092	EPA 200.8	09/24/2015
5	[redacted]	A	06/19/2015	0.0097	EPA 200.8	07/01/2015
6	[redacted]	A	09/21/2015	0.0098	EPA 200.8	09/24/2015
7	[redacted]	A	09/18/2015	0.0102	EPA 200.8	09/24/2015
8	[redacted]	A	06/19/2015	0.0104	EPA 200.8	07/01/2015
9	[redacted]	A	06/19/2015	0.0107	EPA 200.8	07/07/2015
10	[redacted]	A	06/12/2015	0.0108	EPA 200.8	06/29/2015
11	[redacted]	D	06/23/2015	0.0110	EPA 200.8	07/07/2015
12	[redacted]	D	06/12/2015	0.0115	EPA 200.8	06/26/2015
13	[redacted]	A	06/18/2015	0.0117	EPA 200.8	07/07/2015
14	[redacted]	A	06/12/2015	0.0119	EPA 200.8	06/26/2015
15	[redacted]	A	09/18/2015	0.0123	EPA 200.8	09/24/2015
16	[redacted]	A	06/19/2015	0.0140	EPA 200.8	07/07/2015
17	[redacted]	D	06/12/2015	0.0159	EPA 200.8	06/26/2015
18	[redacted]	A	06/12/2015	0.0167	EPA 200.8	06/26/2015
19	[redacted]	B	06/12/2015	0.0167	EPA 200.8	06/26/2015
20	[redacted]	D	06/19/2015	0.0171	EPA 200.8	07/07/2015
21	[redacted]	A	06/21/2015	0.0173	EPA 200.8	07/07/2015
22	[redacted]	B	06/17/2015	0.0179	EPA 200.8	06/29/2015
23	[redacted]	A	06/19/2015	0.0180	EPA 200.8	07/07/2015
24	[redacted]	A	06/12/2015	0.0183	EPA 200.8	06/26/2015
25	[redacted]	A	06/19/2015	0.0195	EPA 200.8	07/01/2015
26	[redacted]	A	09/21/2015	0.0196	EPA 200.8	09/24/2015
27	[redacted]	D	06/19/2015	0.0200	EPA 200.8	07/07/2015
28	[redacted]	D	06/17/2015	0.0203	EPA 200.8	07/01/2015
29	[redacted]	A	06/19/2015	0.0203	EPA 200.8	07/07/2015
30	[redacted]	B	06/12/2015	0.0204	EPA 200.8	06/26/2015
31	[redacted]	E	06/12/2015	0.0210	EPA 200.8	06/26/2015

SEE END OF THE LEAD REPORT FOR LOCATION TYPES AND CERTIFICATIONS.
NOTE: THIS FORM IS UNACCEPTABLE WITHOUT THE APPROPRIATE AUTHORIZED SIGNATURE.

Exemption 6

CONTINUATION SHEET - COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

CU

Sample Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
32	[redacted]	A	06/19/2015	0.0245	EPA 200.8	07/01/2015
33	[redacted]	D	06/17/2015	0.0256	EPA 200.8	07/01/2015
34	[redacted]	A	06/19/2015	0.0262	EPA 200.8	07/01/2015
35	[redacted]	A	06/19/2015	0.0262	EPA 200.8	07/01/2015
36	[redacted]	A	09/18/2015	0.0296	EPA 200.8	09/24/2015
37	[redacted]	B	06/19/2015	0.0302	EPA 200.8	07/07/2015
38	[redacted]	A	06/19/2015	0.0305	EPA 200.8	07/07/2015
39	[redacted]	B	06/19/2015	0.0307	EPA 200.8	07/07/2015
40	[redacted]	B	06/15/2015	0.0308	EPA 200.8	06/29/2015
41	[redacted]	A	06/19/2015	0.0337	EPA 200.8	07/01/2015
42	[redacted]	A	06/19/2015	0.0339	EPA 200.8	07/07/2015
43	[redacted]	A	06/22/2015	0.0340	EPA 200.8	07/07/2015
44	[redacted]	A	06/19/2015	0.0357	EPA 200.8	07/07/2015
45	[redacted]	B	06/19/2015	0.0357	EPA 200.8	07/07/2015
46	[redacted]n	A	09/20/2015	0.0361	EPA 200.8	09/24/2015
47	[redacted]	A	06/19/2015	0.0361	EPA 200.8	07/01/2015
48	[redacted]	A	06/12/2015	0.0364	EPA 200.8	06/29/2015
49	[redacted]	E	06/17/2015	0.0366	EPA 200.8	06/29/2015
50	[redacted]	A	06/19/2015	0.0367	EPA 200.8	07/07/2015
51	[redacted]	A	06/19/2015	0.0370	EPA 200.8	07/07/2015
52	[redacted]	B	06/19/2015	0.0372	EPA 200.8	07/07/2015
53	[redacted]	A	06/19/2015	0.0397	EPA 200.8	07/01/2015
54	[redacted]	B	06/23/2015	0.0408	EPA 200.8	07/07/2015
55	[redacted]	B	06/19/2015	0.0412	EPA 200.8	07/07/2015
56	[redacted]	D	06/16/2015	0.0414	EPA 200.8	07/01/2015
57	[redacted]	B	06/19/2015	0.0430	EPA 200.8	07/07/2015
58	[redacted]	A	09/18/2015	0.0455	EPA 200.8	09/24/2015
59	[redacted]	A	06/19/2015	0.0465	EPA 200.8	07/07/2015
60	[redacted]	A	09/21/2015	0.0472	EPA 200.8	09/24/2015
61	[redacted]	A	06/14/2015	0.0478	EPA 200.8	07/22/2015
62	[redacted]	A	06/19/2015	0.0480	EPA 200.8	07/01/2015
63	[redacted]	B	06/26/2015	0.0480	EPA 200.8	07/08/2015
64	[redacted]	B	06/12/2015	0.0500	EPA 200.8	06/26/2015
65	[redacted]	A	06/19/2015	0.0506	EPA 200.8	07/07/2015
66	[redacted]	B	06/19/2015	0.0510	EPA 200.8	07/07/2015
67	[redacted]	E	06/12/2015	0.0517	EPA 200.8	06/29/2015
68	[redacted]	B	06/18/2015	0.0530	EPA 200.8	07/07/2015
69	[redacted]	A	06/19/2015	0.0538	EPA 200.8	07/01/2015
70	[redacted]	B	06/19/2015	0.0553	EPA 200.8	07/07/2015
71	[redacted]	A	06/19/2015	0.0589	EPA 200.8	07/01/2015
72	[redacted]	A	06/24/2015	0.0593	EPA 200.8	07/07/2015
73	[redacted]	B	06/22/2015	0.0594	EPA 200.8	07/07/2015
74	[redacted]	D	06/12/2015	0.0597	EPA 200.8	06/26/2015
75	[redacted]	B	06/18/2015	0.0601	EPA 200.8	07/07/2015
76	[redacted]	A	09/30/2015	0.0603	EPA 200.8	10/08/2015
77	[redacted]	A	06/19/2015	0.0609	EPA 200.8	07/07/2015
78	[redacted]	A	09/18/2015	0.0614	EPA 200.8	09/24/2015
79	[redacted]	A	06/17/2015	0.0624	EPA 200.8	06/29/2015
80	[redacted]	B	06/19/2015	0.0629	EPA 200.8	07/01/2015
81	[redacted]	B	06/12/2015	0.0632	EPA 200.8	06/26/2015

Exemption 6

CONTINUATION SHEET - COPPER ANALYSIS INPUT FORM

System Name Passaic Valley Water Commission PWS ID# NJ1605002

CU

ple Number	Location	Loc Type	Sample Date	Result	Analysis Method	Analysis Date
82	[redacted]	A	09/22/2015	0.0633	EPA 200.8	09/30/2015
83	[redacted]	B	06/19/2015	0.0636	EPA 200.8	07/07/2015
84	[redacted]	B	06/19/2015	0.0648	EPA 200.8	07/07/2015
85	[redacted]	A	06/12/2015	0.0652	EPA 200.8	06/26/2015
86	[redacted]	B	06/19/2015	0.0656	EPA 200.8	07/01/2015
87	[redacted]	A	06/19/2015	0.0685	EPA 200.8	07/07/2015
88	[redacted]	A	07/02/2015	0.0687	EPA 200.8	07/15/2015
89	[redacted]	D	06/12/2015	0.0717	EPA 200.8	06/26/2015
90	[redacted]	A	09/21/2015	0.0755	EPA 200.8	09/24/2015
91	[redacted]	B	06/12/2015	0.0771	EPA 200.8	06/26/2015
92	[redacted]	B	06/12/2015	0.0791	EPA 200.8	07/07/2015
93	[redacted]	A	06/19/2015	0.0797	EPA 200.8	07/07/2015
94	[redacted]	A	09/18/2015	0.0813	EPA 200.8	09/24/2015
95	[redacted]	B	06/19/2015	0.0822	EPA 200.8	07/07/2015
96	[redacted]	A	06/18/2015	0.0845	EPA 200.8	07/07/2015
97	[redacted]	A	09/23/2015	0.0922	EPA 200.8	09/30/2015
98	[redacted]	A	06/23/2015	0.1019	EPA 200.8	07/07/2015
99	[redacted]	D	06/12/2015	0.1042	EPA 200.8	06/26/2015
100	[redacted]	A	06/19/2015	0.1074	EPA 200.8	07/07/2015
101	[redacted]	A	06/19/2015	0.1253	EPA 200.8	07/07/2015
102	[redacted]	A	06/19/2015	0.1303	EPA 200.8	07/07/2015
103	[redacted]	A	06/19/2015	0.1526	EPA 200.8	07/07/2015
104	[redacted]	A	09/18/2015	0.1690	EPA 200.8	09/24/2015
105	[redacted]	A	06/19/2015	0.1833	EPA 200.8	07/01/2015
106	[redacted]	D	06/15/2015	0.1960	EPA 200.8	07/01/2015
107	[redacted]	A	09/21/2015	0.3153	EPA 200.8	09/24/2015

LOC TYPE	DESCRIPTION	TIER
A	Lead Service Lines	1
B	Single Family Structures with Copper Pipe & Lead Solder installed after 1982	1
C	Building & Multifamily Residences with Copper Pipes & Lead Solder installed after 1982	2
D	Building & Multifamily Residences containing Lead Pipes or Service Lines	2
E	Single Family Structures that contain Copper Pipe with Lead Solder installed before 1983	3
F	Other	3

I certify that each first draw sample collected by the water system is on-liter in volume and, to the best of my knowledge, has stood motionless in the service line, or in the interior plumbing of a sample site, for at least six hours; and if residents collected the samples, I certify that each tap sample collected by the residents was taken after the water system informed them of proper sampling procedures specified in 141,86(b) (2).

SIGNATURE _____

PRINT NAME _____

TITLE _____

DATE _____

TEL. NO. _____

Lead and Copper Expected Tasks of Support Staff | 2015

EXPECTED TASKS FOR PROJECT SUPPORT STAFF MEMBER:

- **Make copies** of the required number participation letters and COCs
- Make sure there are sufficient **contract laboratory COC forms** to accommodate the number of anticipated lead and copper samples. NOTE: Addendums are now generated using the LIMS E2_Addendum_Chemistry Crystal Report. Detailed directions to generate the report are in Sample Custodian Task section of this SOP.
- **Generate Mailing Labels**
  - 2 sets of label sheets
    - 1 set will be used for the bottles and will include participant address and LIMS Location code.
    - 1 set will be used for the Letters and will include participant name and participant address.
- **Put participant letters and COCs together and mail participation request letters** the Weds the week before the sample drop-off date to allow time for call backs from participants. Include instructions/COC form for consumer to review in advance in case they have questions. Participation request letters will be generated by the Project Manager and can be found on the shared drive under the current study lead and copper folder. Example S:\LABORATORY\LABORATORY\Lead and Copper\PVWC\2012\Jan- Jun 2012\COCs, Letters, Bottle Drop Off
- **Generate Bottle Drop-off Lists** one week before scheduled drop off (same addresses as Mailing labels)
  - 1 set (to include applicable information from the sample collectors and for follow-up calls)
- **Double check Bottle Drop Off Lists**
- **Update Google driving directions** to make sure directions are available for every location and are available in each of two binders: one for each sample collection team.
  - Go to www.google.com and click on maps
  - Type in address and print out map and directions for each location
- **Set-up binders** for the current study's COCs and result letters (3-4 six inch black binders are used).
- **After the Staff assigned to Saturday overtime relays information, make any remaining follow-up phone calls** to participants who did not return filled sample bottles or who did not complete information on COC.
- **Update lead and copper database** for the current monitoring period with sample collection date, Sample ID number, and updated resident info (name, phone number).
- **Update study's excel spreadsheet** with sample ID, collection date, resident name, phone number and address.
- **Update the 'Master' ("current sampling pool") database** with resident name, phone number and address.
- **Update the excel spreadsheet with validated lead and copper results** as they become available. Be sure to include the date the sample results were received.
- **Generate Result Packages providing study participants with validated results** (consumers who occupy homes or bldgs that are tested for lead), within 30 days of when PVWC receives analytical results from the laboratory.
  - Participant result letter package to include:
    - Copy of the analytical report
    - Copies of all related chain-of-custody forms. Note: Original analytical reports and COCs remain at PVWC for inspection.
  - Submit results packages for to team member who is checking the result packages.
  - Upon return, generate copies of all results packages and file in appropriate binders. NOTE: Participant result package does not include the E2 Submission paperwork.
- Generates a list of participant addresses where the results were at or above the action level so that this can be relayed to engineering/distribution to expedite replacement (if this is not already a partial lead service line).
- Generate customer requested lead result spreadsheet. This task is ongoing throughout the monitoring period.

Revision Date: 02/2/2015
A McElroy

EXPECTED TASKS FOR SUPERVISOR OF SAMPLE COLLECTORS:

- **Coordinate/Schedule Sample Kit Preparation**(1-2 months in advance)
  - Inventory sample collection supplies (I-Chem bottles, Ziploc bags, and rubberbands) and place an order if applicable
  - Sample labels with name, address (affix to bottle at time of collection)
  - 1000ml certified clean plastic bottle (ICHEM Bottles currently used)
  - Chain of custody form (includes sample collection instructions)
  - Plastic baggy with rubber band to attach sample kit to home
  - PVWC plastic door hang bags

- **Schedule** sample collector staff as described in the Schedule set forth by Project Manager. Set up two teams of collectors. One collector will drive to the locations and take appropriate notes on the bottle schedule, the other collector will drop off empty bottles/pick up the filled bottles.

Revision Date: 02/2/2015
A McElroy

Lead and Copper Expected Tasks of Support Staff | 2015

SAMPLE COLLECTOR EXPECTED TASKS:

- **Set up sample kits** (1-2 months in advance) as coordinated by Supervisor of Sample Collectors
  - Sample labels with name, address (affix to bottle at time of collection)
  - 1000ml certified clean plastic bottle (ICHEM Bottles currently used)
  - Chain of custody form (includes sample collection instructions)
  - Plastic baggy with rubber band to attach sample kit to home
  - PVWC plastic door hang bags
- **Drop-off empty sample bottles** according to date in participation letter and as scheduled.
- **Pick-up filled sample bottles** (next day)
- **Make appropriate notes on the bottle drop off list.** At each location, make the following notes.
  - Check the appropriate box when the sample bottle is dropped off.
  - Check the appropriate box depending on the location type (single family, multi-family, business).
  - Check the appropriate box when the sample is picked up.
  - Make any comments in the comment field that are applicable.
- Sign, date and add time of sample pick-up to COC
- **Preserve samples:** with HNO3 to pH <2 (check each sample with pH test strips to make sure pH is less than 2) and record 'HNO3' on COC indicating the sample has been preserved and refrigerate until analysis or transport to subcontract lab for analysis. After being acidified samples must sit for minimum 24 hours before analyzing for lead and copper. Acidification of the sample must be completed by the laboratory personnel upon receipt of the sample, but in no case later than 14 days after sample collection (as per the EPA Guidance Manual ' Lead and Copper Monitoring and Reporting Guidance for Public Water Systems' EPA-816-R-02-009 February 2009).

Revision Date: 02/2/2015
A McElroy

Lead and Copper Expected Tasks of Support Staff | 2015

EXPECTED TASKS OF SAMPLE CUSTODIAN:

- **Receive Samples:**
  - Check for completion/correctness of COC
    - Resident Section
      - Must indicate stagnant conditions in plumbing (sitting for min 6 hrs prior to collection)
      - Must indicate at which tap the sample was collected (ie. Kitchen or Bathroom)
    - Laboratory Section
      - Sample collector signs 'Picked up' by section and records date and time pick up
      - Sample custodian signs 'Received by' section and records date and time of receipt
  - Do Not Log into LIMS, set to the side and Notify a Supervisor if:
    - COC is not filled out properly by resident (unless the information can be confirmed by the resident and indicated on the COC as such. **Make clarification phone calls** on the evening the samples arrive and note status on COC and on the Sample Collector Bottle List. These can be followed up by the Staff assigned to Saturday tasks).
    - Sample volume is less than 1-Liter (call resident to request new sample, record phone call status on COC and on the Sample Collector Bottle List. These can be followed up by the Staff assigned to Saturday tasks)).
    - Sample is from location other than that on the sample label as a participating address in the lead and copper study. Make a note on the COC and set the sample aside and notify the Project Manager. Contact the resident to confirm that the sample was collected at a location that is not a participating address. If confirmed, attempt to get a sample from the appropriate address. Explain the analysis will still be conducted and submitted as a Customer Requested sample.
- **Assist the Sample Collector in Preserving the samples:** with HNO3 to pH <2 (check each sample with pH test strips to make sure pH is less than 2) and record 'HNO3' on COC and bottle label indicating the sample has been preserved and refrigerate until analysis or transport to subcontract lab for analysis. After being acidified samples must sit for minimum 24 hours before analyzing for lead and copper. Acidification of the sample must be completed by the laboratory personnel upon receipt of the sample, but in no case later than 14 days after sample collection (as per the EPA Guidance Manual Lead and Copper Monitoring and Reporting Guidance for Public Water Systems' EPA-816-R-02-009 February 2009).
- **Log samples into LIMS**
  - Use the 'PB-CU' LIMS location codes
  - Enter collection date, time and sample collector (= resident)
  - Assign sample ID number
  - Record sample ID on COC form
  - Print out the Addendum using the LIMS E2_Addendum_Chemistry Crystal Report
  - Update the Sample Logbook to indicate the samples logged in.

Revision Date: 02/2/2015
A McElroy

Lead and Copper Expected Tasks of Support Staff | 2015

EXPECTED TASKS FOR STAFF ASSIGNED TO FOLLOW UP ON SATURDAY:

- **Listen to Voicemail** Check the #973-237-2066 voicemail, press the button labeled 'vmail'- the passcode is # 1234. If any voicemails regarding clarification follow up calls were available note on the COC and the Bottle Drop off List and log in if acceptable.
- **Turn samples around for contract lab**
  - Attach Contract Lab Labels
  - Fill out contract lab COC form and make sure the addendum is attached so that the results get E2 reported to SDWIS via the subcontract lab.
  - Make a complete set of copies of all PVWC COCs, contract lab COCs/addendums and keep in binder for current monitoring period's lead and copper documents. Originals remain in sample custody.
  - Refrigerate samples until analysis or shipment/delivery to contract lab for analysis
  - Samples must sit for minimum 24 hours after being preserved, before being analyzed so hold for 24 hrs before analysis. If sending to subcontract lab delay delivery to subcontract lab for 24 hrs.
  - First draw follow-up/confirmation samples must be E2 reported (included in the 90th percentile calculation) so make sure an addendum for the contract lab is attached to each COC.
- **Arrange follow-up sampling for samples that were not accepted.** Record all information of phone calls on COC and Bottle Drop off list. Support Staff Member will then take the lead on following up on recollection of these samples if resolutions are not made on Saturday.
- **Make follow-up phone calls** to participants who did not return filled sample bottles. Record all information of phone calls on Bottle Drop off list. Support Staff Member will then take the lead on following up on collection of these samples if resolutions are not made on Saturday. If any pickups are coordinated for the next week, make sure to communicate these pickups to the Supervisor in Charge of Sample Collection, the Laboratory Manager, the Support Staff Member and the Project Manager via email or verbally.
  - **When speaking to residents or leaving a message** be sure to give the PVWC laboratory hours Monday–Friday 8am-4pm and the general lab number #973-237-2066. Specify that any representative will be able to help them.
- **Properly transmit follow up information to Project Support Staff Member** to ensure the appropriate follow up is completed. Project Support Staff Member will update the Project Manager on status.

Revision Date: 02/2/2015
A McElroy

Lead and Copper Expected Tasks of Support Staff | 2015

EXPECTED TASKS OF TEAM MEMBERS CONDUCTING VALIDATION:

- Organize the reports from low sample number to high sample number. This will help in validation because the sample analysis is often batched and they will have the same Quality Control.
- Ensure sample was analyzed within holding time (6 months of collection).
- Ensure the sample was properly preserved. This can be checked by verifying that 'HNO_3' was written on the COC in the appropriate 'preservative' field.
- Ensure the Quality Control is within the acceptance ranges on the Contract Laboratory Report, this includes the following:
    - Laboratory Fortified Blank
    - Instrument Performance Check
    - Quality Control Second Source
    - Laboratory Fortified Matrix
    - Laboratory Fortified Matrix Duplicate
- Check that the result and analysis date recorded in LIMS matches the report.
- Check that the sample collection date, analysis date and PWSID Number on the analytical report matches the PVWC COC/subcontract lab addendum and the E2 Report. If discrepancies found request correction from the applicable party (PVWC or subcontract lab). PWSID Number may only be on the COC and the E2 Spreadsheet, make sure these match.
- Check that the result on the Subcontract Laboratory Report matches the result in LIMS and the result on the E2 form supplied by the Subcontract Laboratory. If it does not, notify the laboratory to determine the correct result. Attach revised report or E2 corrected report to original, if needed create a LIMS Change Request Form to the package, and update result in LIMS.
  NOTE: Due to different units, ppm on analytical and ppb on E2, the results are reported to different significant figures. As long as they round appropriately, this is okay.
- If any results exceed the Action Level of 15 ppb for Lead, request a confirmation analysis from the contract laboratory and attach to the original report.
- Once all is valid and okay, validate result in LIMS.
- At the bottom of the report Write VLT (for Validation), sign your name and the date.

Revision Date: 02/2/2015
A McElroy

EXPECTED TASKS OF INDIVIDUAL CHECKING THE RESULT LETTER:

1. Thoroughly compare first four letters of each type to template in the DRAFT: Implementing the Lead Public Education Provision of the Lead and Copper Rule: A guide for CWS Appendix B
2. Verify Packet includes:
    - Result, 1st page of Letter
    - 2nd page of letter
    - Signed Last Page of letter (Ensure it is signed)
    - Original COC (Copy sent to participant)
    - Hard Copy of result ("Clean" Report)
    - Validated Copy (Ensure "sloppy" copy is validated with signature)
3. Compare the "Clean" Copy of the Report to the Validated or "Sloppy" Copy of the report and make sure they are the same. If so, proceed to the next step using the "Clean" copy of the report. If not, resolve the discrepancy as appropriate.
4. Check that the addresses and name match, by checking the following packet items, in this order:
    - COC
    - Envelope
    - Letter
5. Verify that the Mail Merge was correct, by checking that the address and name in the body of the letter matches the address at the top of the letter.
6. Check that the Collection Date is correct. This can be done by checking the following packet items in this order:
    - COC
    - Letter
    - Report (Hard "Clean" Report)
7. Check that the Sample ID Number is correct. This can be done by checking the following packet items in this order:
    - COC
    - Letter
    - Report (Hard "Clean" Copy)
8. Check that the Result is correct. This can be done by checking the following packet items in this order:
    - Report (Hard "Clean" Copy)
    - Letter
9. Ensure stagnant water conditions were achieved. This is checked on the chain of custody verify there were at least 6 hours of water from the time of "water last used" to the time of "sample Collection
10. Check conversion of specific result in the body of the letter, ppm → ppb
11. Check that the results for both lead and copper in the database are accurate. Make any necessary changes.
12. Enter Date Mailed into the current study database in the column labeled "Results Mailed."
13. Enter "YES" in current study participant column.

Revision Date: 02/2/2015
A McElroy

Lead and Copper Expected Tasks of Support Staff | 2015

EXPECTED TASKS OF PROJECT MANAGER:

- **Request an update of full lead service line replacements** from Engineering and or/ Distribution.
- **Generate study participant list** (create new excel spreadsheet using the current sample pool excel spreadsheet found on shared drive S:\LABORATORY\LABORATORY\Lead and Copper\PVWC\PVWC Lead and Copper Database\ Pb Cu Sampling Pool - Current.xls and save to current lead and copper folder. Name the file for the current lead and copper study as S:\LABORATORY\LABORATORY\Lead and Copper\PVWC\20XX\ Lead and Copper Study Jan-Jun 20XX FINAL.xls
  - Review previous Lead and Copper study participant list (use most recent regulatory compliance report and database) (if change sites from previous study will have to provide documentation to state for location change/substitution).
  - Review lead service renewal submittals provided by Distribution Department and compare to the sampling pool database /participant list and confirm whether or not the lead service line has been replaced and if it was a partial or full lead service line replacement. **Full replacement = main to curb AND curb to bldg;** Partial = main to curb only(partial LSR) and update Database
    - Partial lead service replacements are (replacement main to curb only) and still considered type 'A' lead service and must remain in the sampling pool and be included as lead service location(s).
  - Review lead service renewals to make sure sites are still valid.
    - As per NJDEP-P. Smith if full LSLR and site no longer meets criteria you can replace with a new site that is full LSL...but must complete site replacement paperwork for the State.
  - Cross check in LIMS location codes to make sure all sample sites have valid LIMS location codes (may want to use these on the sample drop-off lists and on labels to facilitate sample login).
    - If needed generate new location code. Use the next highest number and make sure to update the location type (i.e, A, B etc...)
- **Generate Participation Request Letters** (Pat-Pass and Clifton) requesting participation from customers
  - Target 80-100% greater addresses than required (i.e., for 100 required sites send out 180-200 letters)
- **Generate assoc COC forms** (Pat-Pass and Clifton)
- **Send email** to J.Bella, K.Byrnes, Customer Service Manager, Laboratory and Water Quality announcing dates of study – one to two weeks before mailing participation request letters.
- On each Monday after the scheduled Pick up and Drop Off, Complete the following tasks.
  - Check for completion/correctness of COC
    - Resident Section
      - Must indicate stagnant conditions in plumbing (sitting for min 6 hrs prior to collection)
      - Must indicate at which tap the sample was collected (ie. Kitchen or Bathroom)
    - Laboratory Section
      - Sample collector signs 'Picked up' by section and records date and time pick up
      - Sample custodian signs 'Received by' section and records date and time of receipt
      - Preservation completed and documented
  - Make sure follow up calls were conducted and completed

- **Generate Result Letters providing study participants with validated results** (consumers who occupy homes or bldgs that are tested for lead), within 30 days of when PVWC receives analytical results from the laboratory.
  - Uses the current customized letter with individual lead results (AL, MCLG and definitions) which was developed using letter templates found in Appendix B Public Education Material Templates, EPA Draft Guidance Manual 'Implementing the Lead and Public Education of the Lead and Copper Rule: A Guide for Community Systems: EPA 816-D-07-004, December 2007).
    - The final letter must be reviewed and approved by the Laboratory Manager.

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A McElroy

- Project Manager checks each letter as described in **"EXPECTED TASKS OF INDIVIDUAL CHECKING THE RESULT LETTER"** Section.

- Project Manager will update letter as needed i.e., changes in 'What does this mean section?'
- Notify Regulatory Compliance Officer of anticipated mailing date of result letters in advance of mailing (so they can notify local and county health departments).

- **Submit follow-up paperwork to the State (includes certification for sample collection)**
  - **Submit Sample Site Change**: Submit Form NJDEP-BSDW-56 form 'Lead and Copper Sample Site Change Form' for any site substitutions must be submitted to the State within 10 days following the end of the monitoring period but this should be done ASAP after study has been completed. Reasons for substitution include:
    - Previous participant who wish not to be included
    - Locations where full lead service lines have been replaced (replaced main to curb AND curb to box)
    - participated last study but not this study
    - did not participate last study but participated this study
    -
  - **Submit Certification of Consumer Notice of Lead Tap Water Monitoring Results** certifying that results were provided to consumers who occupy homes tested for lead within 30days of receipt of results and that include MCLG, AL (with definitions for each) and health effects language and steps consumers can take to reduce exposure to lead from drinking water.
    - Use NJDEP BSDW-54 Certification Form – Consumer Notice of Lead Tap Water Monitoring Results and a copy of the notification
    - Submit form and a copy of the notification to the State ASAP after completion of study. State deadline is within 3 months following the end of the monitoring period.
      - Generate a 'Table of Consumer Notification of Lead Tap Monitoring Results' by modifying the study's excel spreadsheet so that only the following information is included:
        - Complete address (street address, city, state and zip
        - Customer Name
        - Sample ID #
        - Sample Collection Date
        - Date Results Received
        - Date Results Mailed

  - **Customer Requested Lead Results** - Generate a list with address and results for all customer requested lead samples during the current monitoring period. Submit the list along with a cover letter to the State within 10 days following the end of the monitoring period.
- **Provide Priority List** to Distribution Department and Engineering Department with a list of addresses from the study whose lead results were at or above the 15 ppb action level to be placed on priority list for lead service replacement.
- Check online NJDEP WaterWatch website and verify all results are accurate compared to validated analytical report.
- Generate LIMS 'internal use' compliance report for Lead and Copper. Check that it is accurate and save to S-drive. A hard copy can be retained in current study "Supporting Documentation Binder."
- **Final Check:** Print out LIMS reports and WaterWatch Reports for both Lead and Copper for current study and check this data to the reports and result letters.

Revision Date: 02/2/2015
A McElroy

- **If Action Level Exceeded:**
  - Notify the Executive Director and Laboratory Manager
  - Notify the NJDEP project manager
  - Assigned personnel will proceed with Lead Public Education.
  - Assigned personnel will begin LSLR

PASSAIC VALLEY WATER COMMISSION
LEAD SERVICE LINE REPLACEMENT PROGRAM

- PVWC had approximately 35,000 lead service lines when lead service line replacement began in 1980.
- PVWC has adopted a lead service line replacement program that was approved by the NJDEP. The program started in 2005.
- PVWC reported to the NJDEP that there were 2266 lead service lines (main to curb) based on our evaluation of the service cards.
- PVWC was required to replace at least 7% of the lead lines within the public right-of-way from main to curb until all lead lines were to have been replaced by the end of 2019.
- PVWC discontinued performing partial lead service renewals in 2013 due to the EPA's moratorium on partial lead service line replacements. During that time we either:
    - targeted customers who already had partial lead service lines with copper from curb to building and lead from main to curb, or
    - performed full lead service replacements.
- As of February 2016, there are 765 known full lead service lines from main to building in our system.
- There are 85 known partial lead service lines from main to curb.
- PVWC instituted a program for routine gathering of service line information during work operations (meter checks, repairs etc.).
- PVWC estimates approximately 25,000 customer-owned lead service lines left in the system.

TABLES:

Passaic Valley Water Commission
Lead Service Evaluation
February 5, 2016

	Service Cards							
Jurisdiction	No. of Records*	Partial Lead Services		Full Lead Service	Cards with no Material Info	No Service Card Available	# of Metered Accounts in CIS	# of Customers with Possible Lead Services
		Main to Curb	Curb to Building	Main to Building				
Clifton	14,238	2	1,586	93	1,454	8,691	22,929	11,826
Passaic	6,943	4	1,115	33	602	1,281	8,224	3,035
Paterson	24,178	53	3,042	575	3,488	0	23,490	7,158
Woodland Park	0	0	0	0	0	114	114	114
Prospect Park	1,121	26	151	64	167	60	1,181	468
Totals	**46,480**	**85**	**5,894**	**765**	**5,711**	**10,146**	**55,938**	**22,601**

*Attempted to filter out all duplicate records, records with invalid addresses and fire lines.

REPLACEMENT OF SERVICE LINES TO COPPER

Passaic Valley Water Commission

PWSID No. 1605002

TOTALS FROM 2010 – 2015

Jurisdiction	Main to Curb	Curb to Building
Clifton	309	72
Passaic	76	39
Paterson	581	91
Prospect Park	40	11
Total	**1006**	**213**

1/1 to 12/31/2015

Jurisdiction	Main to Curb	Curb to Building
Clifton	12	6
Passaic	8	2
Paterson	31	8
Prospect Park	4	1
TOTALS	**55**	**17**

1/1 to 12/31/2014

Jurisdiction	Main to Curb	Curb to Building
Clifton	35	9
Passaic	8	11
Paterson	122	19
Prospect Park	16	2
TOTALS	**181**	**41**

1/1 to 12/31/2013

Jurisdiction	Main to Curb	Curb to Building
Clifton	29	16
Passaic	37	10
Paterson	158	26
Prospect Park	3	2
TOTALS	**227**	**54**

1/1 to 12/31/2012

Jurisdiction	Main to Curb	Curb to Building
Clifton	144	7
Passaic	11	5
Paterson	36	2
Prospect Park	6	1
TOTALS	**197**	**15**

1/1 to 12/31/2011

Jurisdiction	Main to Curb	Curb to Building
Clifton	54	8
Passaic	7	6
Paterson	84	15
Prospect Park	2	3
TOTALS	**147**	**32**

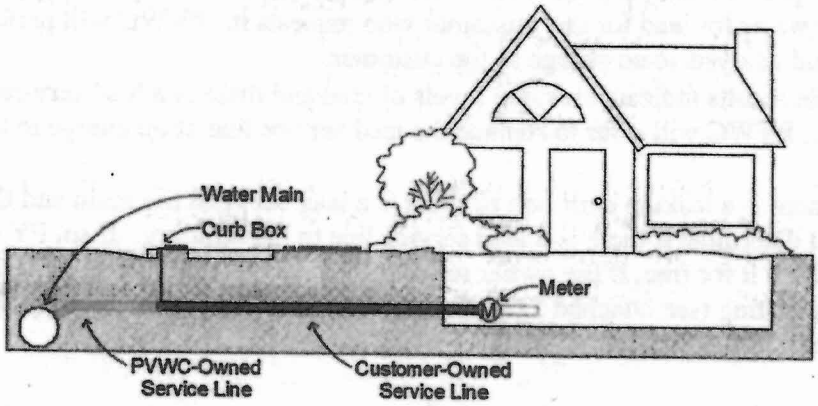
1/1 to 12/31/2010

Jurisdiction	Main to Curb	Curb to Building
Clifton	35	26
Passaic	5	5
Paterson	150	21
Prospect Park	9	2
TOTALS	**199**	**54**

PASSAIC VALLEY WATER COMMISSION

LEAD SERVICE REPLACEMENT PROTOCOL

Existing Conditions



NOTE:
- Approximately 900 PVWC-Owned service lines (Main to Curb box) are lead.
- Approximately 30,000 Customer-Owned service lines (Curb box to Meter) are lead.

Sources of Lead

PVWC does not own and has limited information on the material of the customers' service lines between the curb and building. In addition, there likely exist other sources of lead, including internal plumbing, lead solder, and faucets and fixtures containing lead materials.

Addressing Lead Concerns

PVWC's priority is always to protect the public health. With respect to lead management, PVWC uses the latest guidance from NJDEP and USEPA to minimize lead levels within the constraints affecting our system. In accordance within the applicable federal and state drinking water rules governing lead and copper, PVWC treats the water such that the corrosion and leaching of lead is minimized to the extent possible. In addition to treating the water, PVWC adds a corrosion inhibitor at two feed points in the distribution system. The corrosion inhibitor provides added protection to several wholesale customers as well as a significant portion of the main distribution system. PVWC cannot expand the coverage, however, until the finished water reservoirs are taken off line. PVWC will seek to expand the coverage of corrosion inhibitor as soon as feasible after the elimination of the open finished water reservoirs.

PVWC also has an extensive and ongoing lead sampling and analysis program as well as a continuous public education program that advises the public on the best practices for minimizing lead in their drinking water.

Additional Steps

In order to more aggressively address customers concerns about lead in their water, PVWC has decided to take the following proactive steps:

- PVWC will provide sample bottles and directions (customer will take samples) and analyze the water for lead for any customer who requests it. PVWC will perform the sampling and analysis at no charge to the customer.
- If the sample results indicate elevated levels of lead and there is a lead service line (curb to building), PVWC will offer to replace the lead service line at no charge to the customer.
- Any time there is a leaking curb box or there is a leak between the main and the curb box, PVWC will determine if there is a lead service line to the building. If so, PVWC will offer to replace it for free; if the owner refuses, they will be required to indicate their rejection in writing (see attached Lead Service Replacement form) and they will be provided with lead education material.

LEAD SERVICE REPLACEMENT FORM

YES, I WANT TO HAVE MY LEAD SERVICE LINE(S) REPLACED

I, the undersigned, request that Passaic Valley Water Commission replace the portion of lead service line which I own. I understand that during the replacement process, the land above this line will be excavated, and that there may be some temporary increases in lead in the drinking water related to this replacement process. I understand that replacing the lead service line will have no impact on other sources of lead that may exist in my home such as lead in solder, internal plumbing, faucets, and fixtures. I acknowledge, recognize and agree to hold PVWC harmless and indemnify PVWC from the claims and liability for the losses or damage to property or to the injury or death of persons occurring in connection with or arising out of the work. I understand that this document is not a binding contract for the line replacement, and I will make myself available for communications and signing of a contractual agreement with Passaic Valley Water Commission.

_____

Printed Name

_____ _____

Signature Date

NO, I DO NOT WISH TO HAVE MY LEAD SERVICE LINE(S) REPLACED

I, the undersigned, choose **not** to have Passaic Valley Water Commission replace the portion of lead service line which I own and I have received the lead education material provided by PVWC. I understand that if I request to have my lead service replaced in the future, I must pay PVWC a non-fundable fee of $1,500.

_____

Printed Name

_____ _____

Signature Date

HOW TO REDUCE LEAD IN YOUR DRINKING WATER

1. Flush Your Taps.

For most of you, flushing tap water is a simple and inexpensive way you can help protect your family's health. Flushing usually uses less than one or two gallons of water and costs only a few cents per month. To flush, let the water run from the tap before using it for drinking or cooking any time the water in a faucet has gone unused for more than six hours. The longer water resides in your plumbing, the more lead it may contain. Since your building most likely has a lead service line to the water main, you should run the cold water faucet until the water has significant temperature change, and then approximately for an additional minute, before drinking. To conserve water, fill a couple of bottles with water after flushing the tap, and when possible use the first flush water to wash dishes or water plants.

2. Use only cold water for cooking, preparing baby formula and drinking.

Do not cook with, or drink water from the hot water tap. Hot water can dissolve lead more quickly than cold water. If you need hot water for consumption, heat water from the cold tap on the stove. Do not use water from the hot water tap to make baby formula.

3. Remove debris from faucet strainers regularly.

Remove loose lead solder and debris that may accumulate in your faucet strainers due to the recent lead service line replacement. You can do this by removing the faucet strainers from all taps and running the water from 3 to 5 minutes. Thereafter, periodically remove the strainers and flush out any debris that has accumulated over time.

4. Install a Point of Use / home treatment device.

Tap filter These home treatment devices are limited in that each unit treats only the water that flows from the faucet to which it is connected, and all of them require periodic regular maintenance and replacement. Devices such as reverse osmosis systems or distillers can effectively remove lead from your drinking water. Some activated carbon filters *may* reduce lead levels at the tap, however, all lead reduction claims should be investigated. One way to do this is to look for the National Sanitation Foundation (NSF) mark.

NSF tests and verifies products, such as drinking water treatment units, to determine whether they comply with specific standards, including the claims made by the manufacturer. Those products that pass the NSF's standards can bear the NSF mark. If you want more information about drinking water treatment devices, you can contact NSF at (800-NSF-8010) or visit their web site at www.nsf.com.

Countertop filter Filtering systems are now widely available at most home-goods or department stores. Again, filters that pass NSF's testing criteria will carry the NSF mark. It is important to follow the product usage and filter replacement instructions. Leaving a filter in for longer than its recommended life can actually cause levels of lead or other contaminants to increase, because of accumulation in the filter. In addition, there is potential for accumulation of bacterial contamination.

5. Purchase bottled water for drinking and cooking.

6. Replace internal plumbing such as faucets.

PASSAIC VALLEY WATER COMMISSION
LEAD ANALYSIS – HOMEOWNER TAP SAMPLE COLLECTION
INSTRUCTIONS

FIRST DRAW SAMPLE:

1. There must be a minimum of 6-8 hours during which there is **NO** water use in the household prior to sampling. Early morning or evenings upon returning home are generally the best sampling times to ensure that the necessary stagnant water conditions exist.

2. Use a kitchen or bathroom **cold** water faucet for sampling. Place the open sample bottle below the faucet and gently turn on the cold water. **Fill the sample bottle to the top** and turn off the water.

3. Tightly cap the filled sample bottle and return to Passaic Valley Water Commission at 1525 Main Avenue, Clifton, New Jersey.

YOUR SAMPLE MUST BE ACCOMPANIED BY THIS COMPLETED FORM.

Results from this monitoring will be mailed, within 4-6 weeks, to the address on this form. There will be no charge for this analysis.

If you have any questions please contact our Customer Service Department at 973-340-4300.

TO BE COMPLETED BY RESIDENT: (Please print)

Name: _____ Telephone #: _____

Address: _____ Account #: _____

_____

First Draw Sample taken from: (Circle One) Kitchen or Bathroom faucet

Water Last Used: Time: _____AM/PM Date: _____

Sample Collected: Time: _____AM/PM Date: _____

I have read the above instructions and have taken the sample in accordance with these instructions.

Signature: _____ Date:_____

TO BE COMPLETED BY LABORATORY:

SAMPLE ID #: _____

Picked up by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____

PASSAIC VALLEY WATER COMMISSION
1525 Main Avenue
Clifton, New Jersey 07011
973-340-4300 phone
973-340-5598 fax

Application for Replacement of Lead Water Service

I grant permission for PVWC to replace the water service pipe at no charge/cost:

_____ _____

Address City

The **main to curb** service I am requesting is:

- ☐ ¾"
- ☐ 1"
- ☐ 1 ½"
- ☐ 2"

The **curb to building** service I am requesting is:

- ☐ ¾"
- ☐ 1"
- ☐ 1 ½"
- ☐ 2"

I authorize PVWC to install the service(s) with the service size(s) that I have selected above.

Signature: _____

Print Name: _____

Date: _____ Phone #: _____

If necessary:
Sidewalk, walkway and driveway will be repaired by PVWC.
Lawn will be treated with top soil and seed.

PASSAIC VALLEY WATER COMMISSION
1525 Main Avenue
Clifton, New Jersey 07011
973-340-4300 phone
973-340-5598 fax

Application for New / Renewal Water Service
(Circle New or Renewal)

I hereby request a new water service pipe at:

_____ _____
Address City

The **main to curb** service I am requesting is:

- ☐ ¾.....No charge
- ☐ 1" .....No charge
- ☐ 1 ½" $4,390.00
- ☐ 2" $4,670.00

The **curb to building** service I am requesting is:

- ☐ ¾".....$4,150.00
- ☐ 1" $4,215.00
- ☐ 1 ½" $4,390.00
- ☐ 2" $4,670.00

Total cost of service(s) requested: $_____

I authorize PVWC to install the service(s) and charge my account the amount corresponding with the service size(s) that I have selected above.

Signature: _____

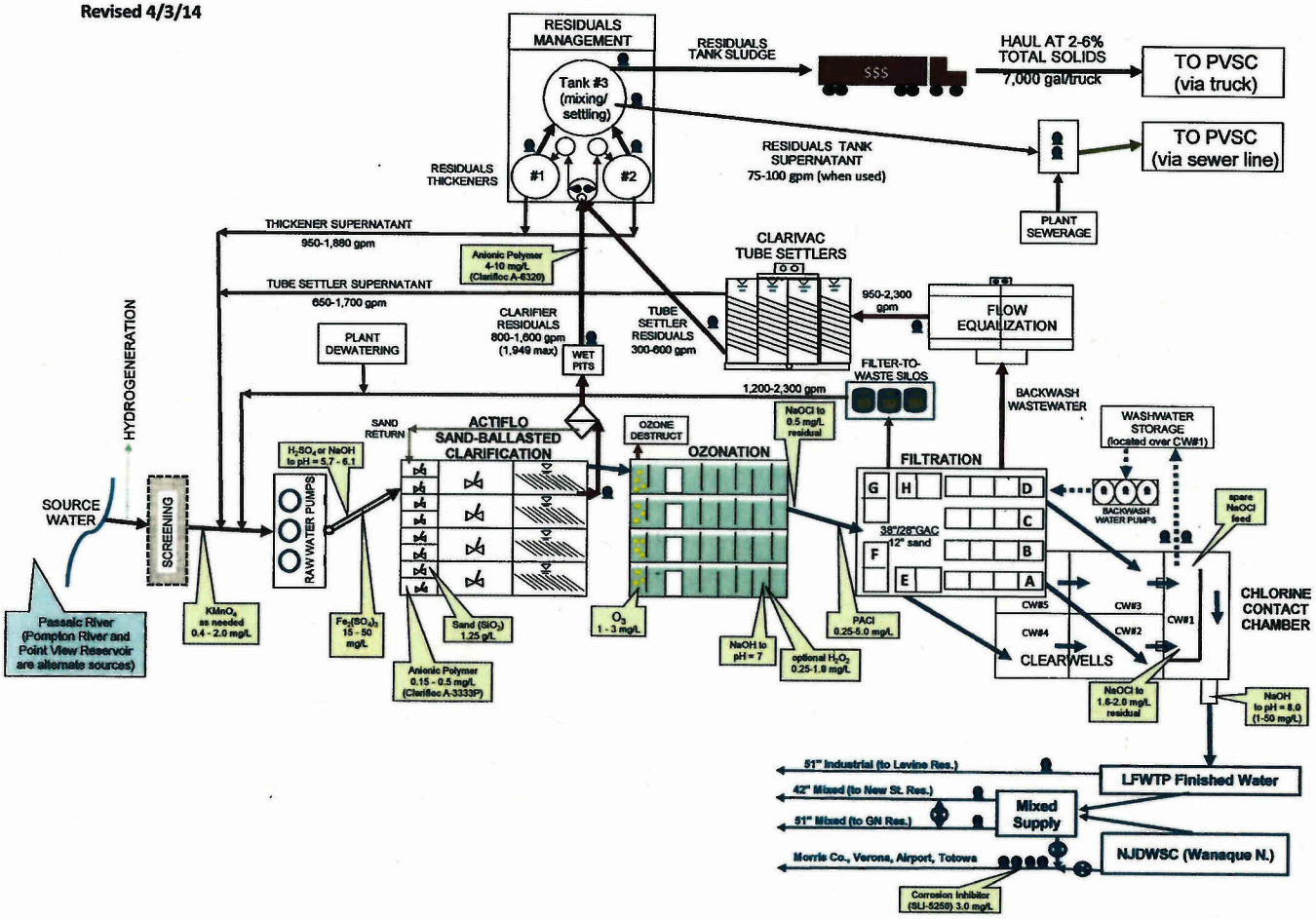
Print Name: _____

Date: _____ Phone #: _____

If necessary:
Sidewalk will be repaired by PVWC.
Lawn will be treated with top soil and seed.

Passaic Valley Water Commission Little Falls Water Treatment Plant (Totowa, NJ)

Revised 4/3/14



PASSAIC VALLEY WATER COMMISSION

SOURCE-WATER LEAD AND COPPER MONITORING RESULTS (mg/L)

(n.d. = not detected)

	LFWTP		Mixed		Wanaque	
	Copper	Lead	Copper	Lead	Copper	Lead
2013						
Jan	0.0049	n.d.	0.0054	n.d.	0.0025	n.d.
Mar	0.0031	n.d.	0.0041	n.d.	0.0034	n.d.
Apr	0.0036	n.d.	0.0061	n.d.	0.0028	n.d.
May	0.0050	n.d.	0.0058	n.d.	0.0046	n.d.
Jun	0.0016	n.d.	0.0165	0.0014	0.0042	n.d.
Jul	0.0028	n.d.	0.0051	n.d.	0.0027	n.d.
Sep	0.0029	n.d.	0.0041	n.d.	0.0031	n.d.
Oct	0.0041	n.d.	0.0032	n.d.	0.0025	n.d.
2014						
Jan	0.0023	n.d.	0.0031	n.d.	0.0018	n.d.
Mar	0.0058	n.d.	0.0052	n.d.	0.0032	n.d.
Apr	0.0023	n.d.	0.0027	n.d.	0.0015	n.d.
Jun	0.0026	n.d.	0.0042	0.0018	0.0031	n.d.
Jul	0.0030	n.d.	0.0035	n.d.	0.0025	n.d.
Oct	0.0049	n.d.	0.0081	0.0007	0.0030	n.d.
2015						
Jan	0.0049	n.d.	0.0039	n.d.	0.0027	n.d.
Apr	0.0024	n.d.	0.0033	n.d.	0.0019	n.d.
Jun	0.0031	n.d.	0.0045	n.d.	0.0031	n.d.
Jul	0.0041	n.d.	0.0061	n.d.	0.0031	n.d.
Aug	0.0045	n.d.	0.0063	n.d.	0.0031	n.d.
Sep	0.0044	n.d.	0.0053	n.d.	0.0035	n.d.
Oct	0.0041	n.d.	0.0054	n.d.	0.0026	n.d.
Nov	0.0040	n.d.	0.0044	n.d.	0.0025	n.d.

WQP-2013

	Ca (µg/L)	Cacium as $CaCO_3$ (mg/L)	pH (SU)	Temp (°C)	Orthophosphate (mg/L)	Alkalinity (mg/L)	Specific Conductance (µmhos)
1/3/2013	6090	15.2	7.27	12	<0.250	15.5	77.3
1/17/2013	5780	14.4	7.2	14	<0.250	15.5	73.6
1/31/2013	5960	14.9	7.8	12	<0.250	15.4	89.6
Feb							
3/14/2013	6320	15.8	7.25	10	0.33	13.2	89.4
4/11/13	5640	14.1	7.85	15	<0.250	12	89.1
4/25/2013	5790	14.5	7.36	15	0.32	13.9	64.8
5/9/2013	5980	14.9	7.89	18	0.33	15.7	85.2
6/6/2013	5840	14.6	7.5	18	0.52	13.1	84
6/20/2013	5700	14.2	7.85	20	0.5	18.1	98
7/11/2013	6120	15.3	7.84	22	0.39	17.4	93.1
7/18/2013	5400	13.5	7.86	25	15.2	87	0.29
8/1/2013	5540	13.8	7.78	22	0.07	13.5	78.1
8/15/2013	5490	13.7	7.57	19	0.29	10.1	84.5
9/12/2013	5430	13.6	7.49	23	0.29	18.6	77.4
9/27/2013	<5000	12.3	7.67	19	0.6	16.9	69
10/15/2013	5310	13.3	7.76	19	0.57	13.2	71.5
10/24/2013	5180	12.9	7.24	17	0.41	17.3	65.1
11/7/2013	5540	13.8	7.25	15	0.47	24	78.4
11/21/2013	5560	13.9	7.46	16.5	0.36	14.8	82.9
12/5/2013	5770	14.4	7.32	15	0.18	18.1	85.3
12/19/2013	5980	14.9	7.51	15	0.31	14.5	86.5

WQP - 2014

	Ca (µg/L)	Cacium as $CaCO_3$ (mg/L)	pH (SU)	Temp (°C)	Orthophosphate (mg/L)	Alkalinity (mg/L)	Specific Conductance (µmhos)
1/9/2014	6590	16.5	7.91	11	0.37	16.4	93.6
1/30/2014	6430	16.1	7.58	10	15.9	98.5	0.235
2/12/2014	6020	15	7.37	9	0.22	15.7	90.5
3/04/14	5550	13.8	7.24	10	0.29	14.1	75.6
3/20/2014	5650	14.1	7.63	12	0.07	16.3	91.9
4/03/14	5740	14.3	7.71	13	0.34	15	86.8
4/24/2014	6600	16.5			0.48	11	83.4
5/8/2014	6040	15.1	7.27	16	14.7	98	0.47
5/29/2014	6080	15.2	7.43	17	0.42	12.9	92.7
6/3/2014	5650	14.1	7.45	19	0.4	12.1	94.9
6/12/2014	5850	14.6	7.45	19	0.408	11.1	89.8
7/17/2014	5470	13.7	7.6	22	0.402	12.5	94.5
7/31/2014	5520	13.8			0.478	12.9	91.4
8/21/2014	5530	13.8	7.58	22	0.354	10.3	81.2
9/18/2014	5560	13.9			0.363	11.6	79.5
9/30/2014	5620	14	7.5	22	0.431	11.5	93.3
10/9/2014	5680	14.2			0.61	9.31	73
10/30/2014	5740	14.3	7.35	20	<0.250	15.1	84.1
11/13/2014	5790	14.5			0.741	15.1	84.5
11/25/2014	5850	14.6	7.43	15	0.822	15.1	85
12/18/2014	6500	16.2			0.783	10.9	87.2

WQP-2015

	Ca (µg/L)	Cacium as $CaCO_3$ (mg/L)	pH (SU)	Temp (°C)	Orthophosphate (mg/L)	Alkalinity (mg/L)	Specific Conduct ance (µmhos)
1/15/2015	5300	15.7	7.24	6	0.813	11	80.8
1/29/2015	5970	14.9	7.89	5	0.597	15.9	89.3
2/19/2015	7020	17.5	7.41	5	<0.250	11.5	85.4
2/26/2015	6960	17.4	7.26	7	0.682	12.2	88.4
3/12/2015	6880	17.2	7.63	11	0.079	19.2	89.4
3/31/2015	7680	19.2			0.412	21.1	94.7
4/9/2015	7430	18.5	7.71	12.4	0.497	204	107
4/30/2015	7200	18	7.56	17	0.315	18.4	114
May							
May							
6/16/2015	6360	15.9			0.379	13.2	101
6/25/2015	6270	15.7	7.51	18	0.295	12.9	140
7/9/2015	6070	15.2	7.45	18.2	0.332	15.3	107
7/27/2015	6250	15.6	7.46	23	0.351	22.6	105
8/6/2015	6510	16.2	7.42	22	0.316	13.6	105
8/27/2015	6450	16.1	7.46	23	0.423	11.1	83.3
9/15/2015	6200	15.5	7.46	21	0.178	13.9	101
9/29/2015	5880	14.7	7.42	22	0.158	14	88.6
10/15/2015	6120	15.3	7.46	19	0.176	14	89
10/25/2015	6210	15.5	7.21	20	0.256	10.6	73.4
11/12/2015	7440	18.5	7.2	19	0.25	15.2	85.2
12/8/2015	6280	15.7	7.1	15	0.734	10.6	86.3
1/4/2016	5940	14.8	7.14	15	0.546	11.6	99.9

PVWC PWS ID NJ1605002

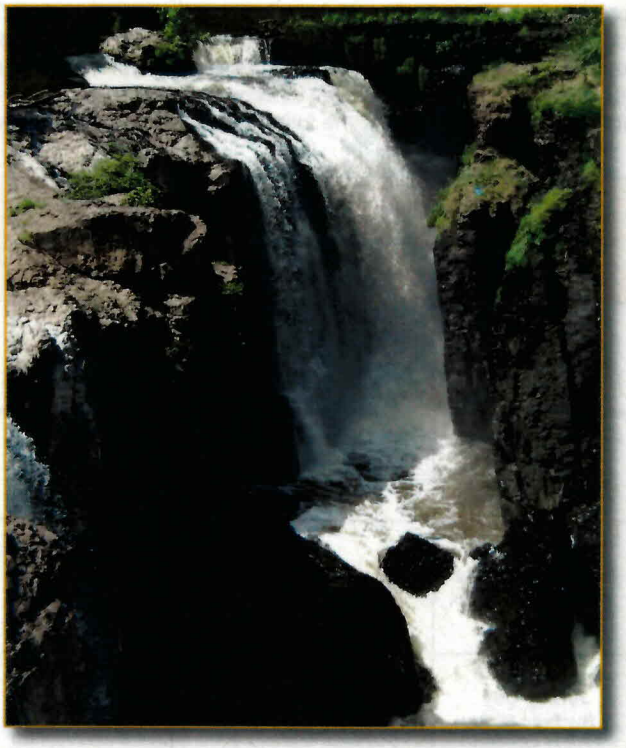
PASSAIC VALLEY WATER COMMISSION

2014 Water Quality Report

Issued May 2015

Passaic Valley Water Commission (PVWC) is pleased to provide our customers in Paterson, Clifton, Passaic, Prospect Park and Woodland Park with this annual Water Quality Report. PVWC is a public drinking water supplier owned by the cities of Paterson, Clifton and Passaic, and also owns and operates the Alan C. Levine Little Falls Water Treatment Plant (WTP). For a majority of PVWC customers finished water from the Little Falls WTP is blended with finished water obtained from North Jersey District Water Supply Commission's (NJDWSC) Wanaque WTP. After treatment the finished water is then pumped through underground pipes to the cities of Paterson, Clifton, Passaic, Prospect Park, Lodi, North Arlington, a section of Woodland Park and to over 22 wholesale customers in Passaic, Bergen, Essex, Hudson and Morris Counties. Emergency interconnections with other water purveyors exist throughout the distribution system.

PVWC holds monthly open public meetings. For dates, times and locations of these meetings, or for additional copies of this report call our Customer Service Department at 973-340-4300.



ANNUAL WATER QUALITY REPORT

PVWC is required to distribute an annual Water Quality Report, or Consumer Confidence Report, to each customer as a result of amendments made in 1996 to the Safe Drinking Water Act. This report provides a summary of information collected during the calendar year 2014 regarding compliance monitoring required by both the United States Environmental Protection Agency (EPA) and the New Jersey Department of Environmental Protection (NJDEP), as well as additional water quality monitoring data.

The quality of the water delivered to your service area is represented by the combined data sets provided for PVWC's Little Falls WTP, NJDWSC's Wanaque WTP, Jersey City's WTP and United Water's Haworth WTP, and in the combined distribution system in the cities of Paterson, Clifton, Passaic, Prospect Park and a section of Woodland Park. Water from United Water-NJ and Jersey City was used to supplement the water supply in our system during parts of 2014. Chlorine (sodium hypochlorite) is the residual disinfectant for the Little Falls WTP, Wanaque WTP, and Jersey City WTP, and chloramines are used as the residual disinfectant for United Water-NJ's Haworth WTP. ***PVWC's water met all primary health-based standards in 2014.***

SOURCE WATER

PVWC withdraws water from the Passaic River in Totowa, New Jersey and treats it at the Little Falls WTP. In the event of water quality issues in the Passaic River, PVWC can also withdraw water from either the Pompton River or the Point View Reservoir (which is filled from the Ramapo River). A water quality monitoring station is operated by the U.S. Geological Survey on the Passaic River shortly upstream of the Little Falls WTP intake and just downstream of the Passaic River's confluence with the Pompton River. This monitoring station provides continuous data for important water quality parameters, and helps provide advanced warning of adverse changes in water quality. PVWC also conducts a surface water monitoring program at various stream and river locations throughout the Passaic River watershed.

SOURCE WATER ASSESSMENT

NJDEP has prepared Source Water Assessment reports and summaries for all public water systems. The Source Water Assessment for the PVWC system (PWS ID 1605002), NJDWSC system (PWS ID 1613001), United Water-NJ system (PWS ID 0238001), and Jersey City system (PWS ID 0906001) can be obtained by accessing NJDEP's source water assessment web site at http://www.state.nj.us/dep/swap or by contacting NJDEP's Bureau of Safe Drinking Water at 609-292-5550. If a system is rated highly susceptible for a contamination category, it does not mean a customer is – or will be – consuming contaminated water. The rating reflects the potential for contamination of a source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any of those contaminants are detected at frequencies and concentrations above allowable levels. The source water assessments performed on the intakes for each system list the following susceptibility ratings for a variety of contaminants that may be present in source waters:

Intake Susceptibility Ratings	Pathogens	Nutrients	Pesticides	Volatile Organic Compounds	Inorganic Contaminants	Radionuclides	Radon	Disinfection Byproduct Precursors
PVWC 4 Surface Water	4-High	4-High	1- Medium, 3-Low	4-Medium	4-High	4-Low	4-Low	4-High
NJDWSC 5 Surface Water	5-High	5-High	2- Medium, 3-Low	5-Medium	5-High	5-Low	5-Low	5-High
United Water-NJ 6 Surface Water	6-High	2-High 4-Medium	1-Medium 5-Low	2-High 3-Medium 1-Low	5-High 1-Medium	6-Low	6-Low	6-High
Jersey City 1 Surface Water	High	Medium	Low	Medium	Medium	Low	Low	High

WATER TREATMENT

The Little Falls WTP is a multiple-stage advanced-technology treatment system designed and operated to provide a high degree of disinfection (for pathogenic microorganisms that can cause disease), removal of a variety of potential chemical contaminants, and treatment for aesthetic concerns such as taste, odor, and color. The treatment system uses four primary means for dealing with these contaminants, including two particle removal systems (high-rate sand-ballasted coagulation/flocculation/sedimentation, and filtration with granular activated carbon and sand) and two chemical disinfection systems (primary disinfection with ozone, and residual disinfection with chlorine).

The treatment system is designed and operated to handle the various water quality contaminants that may be present in a highly-developed watershed such as the Passaic River basin. The system underwent an $80 million upgrade during the past decade, including addition of a high-rate sedimentation process and ozone disinfection. Fluoride is not added to the water, but there are low levels present naturally (fluoride is a natural mineral).

The NJDWSC's Wanaque WTP draws its water from the Wanaque Reservoir in Wanaque, New Jersey. The water treatment plant uses conventional treatment comprised of coagulation/flocculation/sedimentation, gravity filtration through sand and anthracite, and chlorine disinfection.

WATER QUALITY LABORATORY

PVWC operates an onsite advanced water quality laboratory. The laboratory is staffed with highly trained, degreed professionals and is certified by the NJDEP to conduct a wide variety of microbiological and chemical analyses. The laboratory provides sampling, monitoring and analytical testing services for the Little Falls WTP, PVWC drinking water reservoirs, PVWC's watershed monitoring program, and all the PVWC distribution systems in Passaic and Bergen Counties. Its mission is to help ensure that our customers' water quality is consistently high and that compliance with all Federal and State regulations for drinking water is met. Of particular concern is ensuring the bacteriological and chemical quality of the water is maintained while it is delivered to the customers. The laboratory also provides sampling and testing services to other water systems, many of whom purchase PVWC water for distribution to their communities.

UNCOVERED DRINKING WATER STORAGE RESERVOIRS

PVWC operates three open drinking water reservoirs in Woodland Park and Paterson to provide storage capacity (the Great Notch Reservoir, New Street Reservoir, and Stanley Levine Reservoir). The treated water from the Little Falls WTP is pumped to these reservoirs, and that water is then withdrawn for distribution to PVWC's customers. Unfortunately, since these reservoirs are uncovered, they are subject to bacteriological and chemical contamination from wildlife and other natural and man-made causes, and thus the high quality of this already-treated water from the Little Falls WTP may be compromised. While the water withdrawn from the reservoirs is rechlorinated onsite to provide further disinfection, chlorine is not considered very effective against all pathogenic microorganisms such as *Giardia* and *Cryptosporidium*.

Federal law requires that all uncovered drinking water reservoirs in the U.S. must either be covered or treatment applied beyond chlorination to ensure adequate disinfection. PVWC has entered into an Administrative Consent Order (ACO) with the NJDEP for closing these reservoirs in accordance with federal and state regulations. Those plans when implemented will help maintain the high quality of water that is provided by the Little Falls WTP and thus provide appropriate protection of public health.

Administrative Consent Order (ACO) Compliance Requirement	Explanation	Length	Steps Taken to Meet the Compliance Requirement	Health Effects
Uncovered finished water reservoirs.	Three of our finished water reservoirs are not covered. Their discharge is disinfected, but not filtered. A feasibility study to identify the best practical solution to address the uncovered finished water reservoirs was completed and approved by the NJDEP. Final plans to address the three reservoirs are being prepared.	Determined by the State as per the ACO.	Water systems with uncovered finished water reservoirs are required to eliminate or cover these reservoirs, treat the discharge from these reservoirs, or be in compliance with a state-approved schedule to eliminate or cover the reservoirs or provide treatment by April 1, 2009. We have executed an Administrative Consent Order with the NJDEP wherein PVWC was required to develop a plan and implementation schedule to eliminate, cover or provide treatment for our uncovered reservoirs. A three-phase plan to address the reservoirs is presently being finalized.	Inadequately protected or inadequately treated water may contain disease causing organisms. These organisms can cause symptoms such as diarrhea.

Many public drinking water supplies contain a phosphate-based corrosion inhibitor to minimize leaching of lead into the drinking water from household plumbing systems and lead service lines. **However, the phosphate can promote algal growth when exposed to sunlight, and thus PVWC cannot add corrosion inhibitor to the water supply that goes into the uncovered drinking water reservoirs.** PVWC is currently in compliance with the Federal and State requirements for lead (see notice elsewhere in this CCR regarding lead). However, the water supply is still susceptible to leaching lead from plumbing and lead service lines. As a result, PVWC has implemented a phased approach for adding corrosion inhibitor to the water leaving the reservoirs. Two of four satellite corrosion control chemical feed systems were brought on-line as of December 2014. Additional corrosion control systems will be installed as part of the reservoir improvement project. Once the uncovered reservoirs are addressed, PVWC will be able to add corrosion inhibitor to the full water supply, thus providing further protection of public health.

INFORMATION ABOUT DRINKING WATER CONTAMINANTS

SOURCE OF CONTAMINANTS FOR TAP AND BOTTLED WATER

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 800-426-4791. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health as the EPA regulations.

SPECIAL CONSIDERATIONS REGARDING CHILDREN, PREGNANT WOMEN, NURSING MOTHERS AND OTHERS

Children may receive a slightly higher amount of a contaminant present in the water than do adults, on a body weight basis, because they may drink a greater amount of water per pound of body weight than do adults. For this reason, reproductive or developmental effects are used for calculating a drinking water standard if these effects occur at lower levels than other health effects of concern. If there is insufficient toxicity information for a chemical (for example, lack of data on reproductive or developmental effects), an extra uncertainty factor may be incorporated into the calculation of the drinking water standard, thus making the standard more stringent, to account for additional uncertainties regarding these effects. In the cases of lead and nitrate, effects on infants and children are the health endpoints upon which the standards are based.

TECHNICAL DATA TABLES

The data presented in the tables in this Water Quality Report are from the most recent testing conducted in accordance with the regulations. The data tables present concentrations of contaminants detected at the effluent of the treatment plants and in the pipes within the distribution system, typical sources of various contaminants that may be found in drinking water, status of compliance with primary and secondary drinking water standards, and related health information if compliance was not achieved. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. As such, some of the data, though representative, are more than one year old.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

2014 Water Quality Results - Table of Detected Contaminants — **PVWC PWS ID NJ1605002**

WATER TREATMENT PLANT EFFLUENT RESULTS								
PRIMARY CONTAMINANTS	Compliance Achieved	MCLG	MCL	PVWC Little Falls-WTP PWS ID NJ1605002	NJDWSC Wanaque-WTP PWS ID NJ1613001	United Water-NJ Haworth-WTP PWS ID NJ0238001	Jersey City MUA Jersey City-WTP PWS ID NJ0906001	TYPICAL SOURCE
TURBIDITY AND TOTAL ORGANIC CARBON				Highest Result and Range of Results				
Turbidity, NTU	Yes	NA	TT = 1	0.26 (0.08 - 0.26)	0.28	0.18 (0.02 - 0.18)	0.29 (0.04 - 0.29)	Soil runoff.
	Yes	NA	TT = percentage of samples <0.3 NTU (min 95% required)	100%	100%	100%	100%	
Total Organic Carbon, %	Yes	NA	TT = % removal or Removal Ratio	Percent (%) Removal	Removal Ratio	Removal Ratio	Removal Ratio	
				52 - 72 (25-45 required)	1.0 - 1.22	1.04 (Lowest Ratio RAA) 0.95 - 1.22	1.12 (Lowest Ratio RAA) 1.0 - 2.22	Naturally present in the environment.
INORGANIC CONTAMINANTS				Highest Result (Range of Results)				
Barium, ppm	Yes	2	2	0.035 (0.017 - 0.035)	0.013	0.064	0.10	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Bromate, ppb	Yes	0	10	ND	NA	2.3 (highest RAA) (1.5 - 3.7)	NA	By-product of drinking water disinfection.
Chromium, ppb	Yes	100	100	ND	ND	3.2	ND	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride, ppm	Yes	4	4	0.10 (0.07 - 0.10)	0.112	ND	ND	Erosion of natural deposits.
Nickel, ppb	NA	NA	NA	3.4 (1.8 - 3.4)	ND	ND	ND	Erosion of natural deposits.
Nitrate, ppm	Yes	10	10	3.8 (0.55 - 3.8)	0.32	1 (0.07 - 1)	0.35 (0.25 - 0.35)	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
ORGANIC CONTAMINANTS				Highest Result				
Methyl tert-butyl ether, ppb	Yes	NA	70	ND	0.16	ND	ND	By-products of industrial petroleum production.

DISTRIBUTION SYSTEM RESULTS					
PRIMARY CONTAMINANTS	Compliance Achieved	MCLG	MCL	PVWC PWS ID NJ1605002	TYPICAL SOURCE
MICROBIOLOGICAL CONTAMINANTS				Highest Monthly Result	
Total Coliform Bacteria, %	Yes	0	5% of monthly samples are positive	2.5% (6 out of 242 samples Total Coliform Positive)	Naturally present in the environment.
DISINFECTION BYPRODUCTS				Highest LRAA and Range of Results	
Haloacetic Acids (HAA5), ppb	Yes	NA	60	32 (12 - 38)	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM), ppb	Yes	NA	80	53 (22 - 76)	By-product of drinking water disinfection.
Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys or central nervous systems and may have an increased risk of getting cancer.					
DISINFECTANTS		MRDLG	MRDL	Highest RAA and Range of Results	
Chlorine, ppm	Yes	4	4	1.2 (ND - 3.5)	Water additive used to control microbes.
LEAD AND COPPER		MCLG	Action Level	90th Percentile	
Copper, ppm	Yes	1.3	1.3	0.11 (0 of 95 samples exceeded the Action Level)	Corrosion of household plumbing systems.
Lead, ppb	Yes	0	15	14 (8 of 95 samples exceeded the Action Level)	Corrosion of household plumbing systems.

NJDEP granted Jersey City a monitoring waiver for asbestos and synthetic organic chemicals (SOCs). United Water-NJ received a monitoring waiver for SOCs.

UNREGULATED CONTAMINANTS FOR WHICH EPA REQUIRES MONITORING

Contaminant	PVWC Little Falls WTP Average (Range of Results)	United Water-NJ Haworth WTP Average (Range of Results)	Jersey City MUA Jersey City WTP (2014 sampling event)	Distribution System Average (Range of Results)
Chlorate, ppb	117 (93 - 140)	198 (130 – 300)	120	71 (70 – 71)
Chromium, ppb	ND	0.13 (ND – 0.29)	0.37	ND
Chromium-6, ppb	0.077 (0.060 - 0.093)	0.064 (0.034 – 0.094)	ND	0.053 (0.040 – 0.066)
Strontium, ppb	86 (76 - 96)	148 (110 – 170)	110	64 (63 – 64)
Vanadium, ppb	ND	0.28 (ND – 0.42)	ND	ND

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

SECONDARY PARAMETERS – TREATMENT PLANT EFFLUENT

Contaminant	N.J. Recommended Upper Limit (RUL)	PVWC Little Falls WTP PWSID NJ1605002		NJDWSC Wanaque WTP PWSID NJ1613001		United Water-NJ Haworth WTP PWSID NJ0238001		Jersey City MUA Jersey City WTP PWSID NJ0906001	
		Range of Results	RUL Achieved	Result	RUL Achieved	Range of Results	RUL Achieved	Range of Results	RUL Achieved
ABS/LAS, ppb	500	ND - 180	Yes	23	Yes	ND	Yes	ND	Yes
Alkalinity, ppm	NA	40 - 98	NA	42	NA	71 - 167	NA	28 - 70	NA
Aluminum, ppb	200	9.2 - 25	Yes	35	Yes	ND - 110	Yes	ND - 108	Yes
Chloride, ppm	250	91 - 214	Yes	74	Yes	74 - 281	No	72 - 146	Yes
Color, CU	10	ND	Yes	2	Yes	3 - 4	Yes	5 - 10	Yes
Corrosivity	Non-Corrosive	Non-Corrosive	Yes	Non-Corrosive	Yes	Non-Corrosive	Yes	Non-Corrosive	Yes
Hardness (as $CaCO_3$), ppm	250	84 - 200	Yes	72	Yes	104 - 201	Yes	62 - 110	Yes
Hardness (as $CaCO_3$), grains/gallon	15	5 - 12	Yes	4	Yes	6 - 12	Yes	4 - 6	Yes
Iron, ppb	300	ND	Yes	12	Yes	ND	Yes	ND - 110	Yes
Manganese, ppb	50	6 - 18	Yes	ND	Yes	ND	Yes	ND - 220	No**
Odor, TON	3	5	No	ND	Yes	ND - 3	Yes	ND - 1	Yes
pH (optimum range)	6.5 to 8.5	7.8 - 8.1	Yes	8.31	Yes	7.79 - 8.33	Yes	6.17 - 8.35	No
Sodium, ppm	50	47 - 171	No*	40	Yes	46 - 191	No*	36	Yes
Sulfate, ppm	250	40 - 104	Yes	10	Yes	12	Yes	10	Yes
Total Dissolved Solids, ppm	500	275 - 560	No	198	Yes	227 - 626	No	157 - 322	Yes
Zinc, ppb	5,000	2 - 8	Yes	ND	Yes	ND	Yes	ND - 30	Yes

* PVWC and United Water-NJ's FINISHED WATER EXCEEDS SODIUM RUL

PVWC and United Water's finished water were above New Jersey's Recommended Upper Limit (RUL) of 50 ppm for sodium in 2014. Possible sources of sodium include natural soil runoff, roadway salt runoff, upstream wastewater treatment plants, and a contribution coming from chemicals used in the water treatment process. For healthy individuals the sodium intake from water is not important, because a much greater intake of sodium takes place from salt in the diet. However, sodium levels above the recommended upper limit may be a concern to individuals on a sodium-restricted diet. If you have any concerns please contact your health care provider.

** JERSEY CITY'S FINISHED WATER EXCEEDS MANGANESE RUL

Jersey City finished water was above New Jersey's Recommended Upper Limit (RUL) of 50 ppb for manganese in 2014. The RUL for manganese is based on staining of laundry. Manganese is an essential nutrient, and toxicity is not expected from high levels which would be encountered in drinking water.

DISTRIBUTION SYSTEM RESULTS – SECONDARY CONTAMINANTS

Contaminant	RUL	Annual Average	Range	RUL Achieved
Iron, ppb	300	56	ND - 300	Yes
Manganese, ppb	50	10	5 - 27	Yes

MONITORED CONTAMINANTS NOT DETECTED IN 2014

Little Falls WTP Effluent	Antimony, Arsenic, Beryllium, Bromate, Cadmium, Chromium, Combined Uranium, Cyanide, Dioxin, Gross Alpha (Including Radon & Uranium), Iron, Mercury, Perchlorate, Radium-226, Radium-228, Selenium, Silver, Thallium, and Volatile Organic Compounds
PVWC Distribution System	*E. coli* bacteria

UPDATE ON LEAD

PVWC is pleased to announce that our water supply in 2014 met the regulatory requirements for lead. Specifically, monitoring results for the most recent monitoring period of June 1 – September 30, 2014 did not exceed the EPA's lead action level. Under the authority of the Safe Drinking Water Act, the EPA set the action level for lead in drinking water at 15 parts per billion (ppb), or 0.015 milligrams of lead per liter of water (mg/L). This means utilities must ensure that water from the customer's tap does not exceed this level in at least 90 percent of the homes sampled (90th percentile value). The action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. If water from the tap does exceed this limit, then the utility must take certain steps to correct the problem. Because lead may pose serious health risks, the EPA set a Maximum Contaminant Level Goal (MCLG) of zero for lead. The MCLG is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Lead can cause serious health problems, especially for pregnant women and young children, if too much enters your body from drinking water or other sources. While drinking water is one possible source of lead, the major sources include lead-based paint, lead-contaminated dust or soil and plumbing materials. Lead is not present in the water supplied to you, but may dissolve into water from your home or building's plumbing materials or service lines.

As part of PVWC's continuing program to reduce our customers' potential exposure to lead, in December 2013 we installed a corrosion control system at one of our pumping booster stations to treat that part of the water supply. A second such system was installed by the end of 2014 which treats a larger portion of our water supply system. Additional corrosion control systems will be installed as part of the reservoir improvement project. Once the reservoir improvement project is completed and use of the third and final uncovered drinking water reservoir is eliminated, the entire service area will receive corrosion control treatment. In addition, PVWC continues implementing a multi-faceted lead public awareness and education program.

Please also see the full-page section in this report that provides additional information about lead in drinking water.

DEFINITIONS of TERMS and ACRONYMS

ABS/LAS: Alkylbenzene Sulfonate and Linear Alkylbenzene Sulfonate (surfactants)
AL: Action Level; the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
CU: Color unit
CDC: United States Centers for Disease Control and Prevention
Disinfection By-product Precursors: A common source is naturally-occurring organic material in surface water. Disinfection by-products are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (DBP precursors) present in surface water.
EPA: United States Environmental Protection Agency
HAA5: Haloacetic Acids (sum of five compounds)
Inorganic Contaminants: Contaminants such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. These contaminants may be present in source water.
LRAA: Locational running annual average
MCL: Maximum Contaminant Level; the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG: Maximum Contaminant Level Goal; the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Microbial Contaminants/Pathogens: Disease-causing organisms such as bacteria, protozoa, and viruses, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Common sources are animal and human fecal wastes. These contaminants may be present in source water.
MRDL: Maximum Residual Disinfectant Level; the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG: Maximum Residual Disinfectant Level Goal; the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.
NA: Not applicable
ND: Not detected above the minimum reporting level.
NJDEP: New Jersey Department of Environmental Protection
NJDWSC: North Jersey District Water Supply Commission
NTU: Nephelometric Turbidity Unit
Nutrients: Compounds, minerals and elements that aid growth, which can be either naturally occurring or man-made. Examples include nitrogen and phosphorus.
Organic Contaminants/Volatile Organic Compounds: Compounds containing carbon, including synthetic and volatile organic chemicals, which are products or by-products of industrial processes or petroleum production. They are typically used as solvents, degreasers, and gasoline components. These compounds may be present in source water as a result of releases from gas stations, fuel storage tanks, industrial facilities, stormwater runoff, and other sources. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.
Pesticides (Herbicides, Insecticides, Fungicides, and Rodenticides): Man-made chemicals used to control pests, weeds, and fungus. Common sources include manufacturing centers of pesticides, and where they are used in agricultural, industrial, commercial, and residential environments. Examples include herbicides such as atrazine, and insecticides such as chlordane.
ppb: parts per billion (approximately equal to micrograms per liter)
ppm: parts per million (approximately equal to milligrams per liter)
PWS ID: Public Water System Identification
PVWC: Passaic Valley Water Commission
RAA: Running annual average
Radiological Contaminants/Radionuclides: Radioactive substances that are both naturally occurring and man-made; may be present in source water naturally or as a result of oil and gas production and mining activities. Examples include radium, radon and uranium.
Radon: Colorless, odorless, cancer-causing gas that occurs naturally in the environment.
RUL: Recommended Upper Limit; the highest level of a constituent of drinking water that is recommended in order to protect aesthetic quality.
RUL Achieved: A "YES" entry indicates the State-recommended upper limit was not exceeded. A "NO" entry indicates the State-recommended upper limit was exceeded.
TON: Threshold Odor Number
TT: Treatment Technique; a required process intended to reduce the level of a contaminant in drinking water.
TTHM: Total Trihalomethanes (sum of four compounds)
Turbidity: Turbidity is a measure of the cloudiness of the water, and is monitored as an indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

ADDITIONAL INFORMATIONAL RESOURCES

PVWC website: www.pvwc.com
EPA Drinking Water website: www.epa.gov/drink
NJDEP Water Supply website: www.nj.gov/dep/watersupply
American Water Works Association (AWWA) website: www.awwa.org

PVWC Customer Service Department: 973-340-4300
EPA Safe Drinking Water Hotline: 800-426-4791
NJDEP Bureau of Safe Drinking Water: 609-292-5550
AWWA New Jersey Section website: www.njawwa.org

thePVWC

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IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Passaic Valley Water Commission is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at http://www.epa.gov/safewater/lead.

HEALTH EFFECTS OF LEAD

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones and can be released from them later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

SOURCES OF LEAD

Lead is a common metal found in the environment. Drinking water is one possible source of lead exposure. The main sources of lead exposure are lead-based paint and lead-contaminated dust or soil, and some plumbing materials. In addition, lead can be found in certain types of pottery, pewter, brass plumbing fixtures, food, and cosmetics. Other sources include exposure in the work place and exposure from certain hobbies (lead can be carried on clothing or shoes). Lead is found in some toys, some playground equipment, and some children's metal jewelry.

Lead is not present in the water supplied to you. When water has been in contact, for several hours or more, with premise plumbing or service lines that contain lead, the lead may dissolve into the drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon after returning from work or school, can contain fairly high levels of lead. Homes built before 1988 are more likely to have plumbing containing lead. New homes may also have lead; even "lead-free" plumbing may contain some lead. Brass faucets, fittings, and valves, including those advertised as "lead-free," may contribute lead to drinking water. The Reduction of Lead in Drinking Water Act of 2011, which went into effect on January 4, 2014, changed the definition of "lead-free" from not more than 8% to a weighted average of not more than 0.25% lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures. Visit the NSF website at www.nsf.org to learn more about lead-containing plumbing fixtures.

EPA estimates that 10 to 20 percent of a person's potential exposure to lead may come from drinking water. Infants who consume mostly formula mixed with lead-containing water can receive 40 to 60 percent of their exposure to lead from drinking water. Don't forget about other sources of lead such as lead paint, lead dust, and lead in soil. Wash your children's hands and toys often as they can come into contact with dirt and dust containing lead.

STEPS YOU CAN TAKE TO REDUCE YOUR EXPOSURE TO LEAD IN YOUR WATER

1. Run your water to flush out lead. Run your cold water for 30 seconds to 2 minutes or until it becomes cold or reaches a steady temperature before using it for drinking or cooking, if it hasn't been used for several hours. This flushes lead-containing water from the pipes. Flushing usually uses less than one or two gallons of water and costs less than 30 cents per month.

2. Use cold water for cooking and preparing baby formula. Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water. Do not use water from the hot water tap to make baby formula.

3. Do not boil water to remove lead. Boiling water will not reduce lead.

4. Look for alternative sources or treatment of water. You may want to consider purchasing bottled water or a water filter. If purchasing a water filter, read the package to be sure the filter is approved to reduce lead. You can also contact NSF International at 800-NSF-8010 or visit their website at www.nsf.org for information on performance standards for water filters. Be sure to maintain and replace a filter device in accordance with the manufacturer's instructions to protect water quality.

5. Test your water for lead. Call PVWC at 973-340-4300 to find out how to get your water tested for lead, or for a list of local laboratories that have been certified for testing lead.

6. Get your child's blood tested. Contact your local health department or healthcare provider to find out how you can get your child tested for lead if you are concerned about exposure. Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead.

7. Identify and replace plumbing fixtures containing lead. A licensed plumber can check to see if your home's plumbing contains lead solder, lead pipes, or pipe fittings that contain lead. Your local building/code department can provide you with information about building permit records that should contain the names of plumbing contractors who plumbed your home.

8. Find out whether your service line is made of lead. PVWC maintains records of the materials, such as the water mains, located in the distribution system. Contact our Customer Service Department at 973-340-4300 for service line materials records.

You should also determine whether or not the service line that connects your home or apartment to the water main is made of lead. The best way to determine if your service line is made of lead is by either hiring a licensed plumber to inspect the line or by contacting the plumbing contractor who installed the line. You can identify the plumbing contractor by checking the city's record of building permits which should be maintained in the files at your local building department.

FOR MORE INFORMATION

For more information on reducing lead exposure around your home/building and the health effects of lead visit EPA's resources or contact your health care provider.

EPA's Safe Drinking Water Hotline:
800-426-4791

National Lead Information Center:
800-424-LEAD (5323)

EPA Websites: **www.epa.gov/lead**
http://water.epa.gov/drink/info/lead

If you need additional information regarding lead testing of your water, or would like additional copies of this brochure please contact PVWC at 973-340-4300, **customerservice@pvwc.com or visit our website www.pvwc.com.**

Passaic Valley Water Commission
1525 Main Avenue • P.O. Box 230
Clifton, NJ 07011

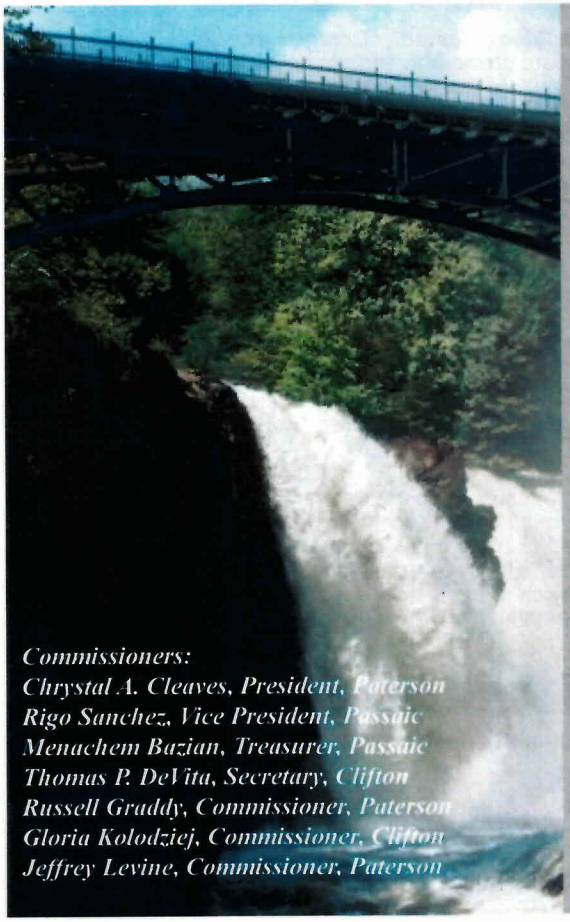
This report contains information about your drinking water. If you do not understand it, please have someone translate it for you.

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.

આ અહેવાલ માં તમારા પીવાના પાણી વિષે અગત્ય ની જાણકારી આપવા માં આવી છે. એનો અનુવાદ કરો અથવા જેને સમજણ પડતી હોય તેની સાથે વાત કરો

للعلومات فى هذا التقرير تحتوى على
معلومات مهمة عن مياة الشرب التىْ
تشربها. من فضلك اذا لم تفهم هذة
للعلومات اطلب من يترجمها لك.

PV



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Thomas P. DeVita, Secretary, Clifton
Russell Graddy, Commissioner, Paterson
Gloria Kolodziej, Commissioner, Clifton
Jeffrey Levine, Commissioner, Paterson

Dear Passaic Valley Water Commission Consumer,

In demonstration of our commitment to you, our consumer, Passaic Valley Water Commission (PVWC) is pleased to present our Annual Water Quality Report. This report provides an overview of the high-quality drinking water provided to you during 2014.

Since our inception in 1927, PVWC has been, and continues to be, committed to providing drinking water to the citizens, businesses and industries of northeast New Jersey, at the highest quality, service and reliability, all at a competitive price. PVWC maintains a 50-year strategic capital improvement program that is used to identify necessary investments to our above-ground infrastructure including treatment facilities, pumping and storage systems, as well as for our buried infrastructure such as transmission mains, piping and valves. Strategic capital improvements are key to maintaining the financial viability and long-term sustainability of our system for the ultimate protection of public health and public safety.

PVWC is planning to implement a large, multi-phased, capital improvement project, mandated by the United States Environmental Protection Agency. This project includes replacement of our open drinking water storage reservoirs with above-ground drinking water storage tanks. This infrastructure improvement project is anticipated to cost on the order of $135 million and is anticipated to be completed over the next 10 years. This project will further enhance the quality of the delivered water and the reliability and resiliency of the overall system.

If you have any questions related to this report, water quality, water pressure, billing, construction projects or other inquiries, please contact our Customer Service Department at 973-340-4300. Our hours of operation, including the walk-up payment window, are Monday through Friday, excluding State holidays, from 7:30 a.m. to 6:00 p.m.; our phone lines are open an extra half hour until 6:30 p.m. Or contact us via email at customerservice@pvwc.com. Additional information about PVWC, including important news and alerts, can be found on our website at www.pvwc.com. For emergencies, call 973-340-4300, 24 hours per day/7 days per week.

Sincerely,

Chrystal A. Cleaves, Paterson

President, PVWC Board of Commissioners

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUN 0 2 2016

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Article Number: 7015 3010 0000 7504 0320

Joseph A. Bella
Executive Director
Passaic Valley Water Commission
1525 Main Avenue
Clifton, NJ 07011

Re: Lead and Copper Rule File Review/Inspection Report: Passaic Valley Water Commission
PWS ID: NJ1605002

Dear Mr. Bella:

The United States Environmental Protection Agency (EPA) conducted an on-site file review and inspection of the Passaic Valley Water Commission's (PVWC) public water system on March 21-23, 2016. Specifically, data was reviewed in order to assess PVWC's compliance with the Lead and Copper Rule (LCR). Enclosed is a summary of the findings and observations made during the file review and inspection, including issues that were identified as areas of concern.

EPA acknowledges that system-wide application of corrosion control inhibitor cannot be implemented fully until PVWC eliminates the uncovered finished water reservoirs. Based on our review, PVWC has complied with the LCR and has optimized corrosion control to best of its ability in spite of the limitations of the uncovered finished water reservoirs. EPA supports the phased approach for installing phosphate-based corrosion control treatment in conjunction with the uncovered reservoir elimination project as embodied in the New Jersey Department of Environmental Protection (NJDEP) Administrative Order on Consent. In the interim, EPA will work with NJDEP to establish optimal water quality parameters.

I would like to thank the PVWC's staff for their cooperation and assistance during this effort. If you have any questions, please feel free to contact me at (212) 637-3093 or Stephanie Sessoms-Midgett of my staff at (212) 637-3352.

Sincerely,

Nicole Foley Kraft, Chief
Groundwater Compliance Section

Enclosure

cc: Patricia Gardner, NJDEP
Marcedius Jamison, NJDEP
Lisa Tracy, NJDEP

FINAL INSPECTION REPORT

PASSAIC VALLEY WATER COMMISSION

PASSAIC COUNTY

CLIFTON, NEW JERSEY

Prepared by
U.S. Environmental Protection Agency
Region 2
New York, New York

Approved by: **Date:**

Nicole Foley Kraft

June 2, 2016

Nicole Foley Kraft, Chief
Groundwater Compliance Section

Background

This report is based on information collected during an on-site file review and inspection of the Passaic Valley Water Commission's (PVWC) public water system which took place on March 21-23, 2016. A review of records pertaining to the Safe Drinking Water Act (SDWA), 42 U.S.C. §§ 300f - 300j-26, specifically the Lead and Copper Rule (LCR) promulgated pursuant to the SDWA (40 C.F.R. Part 141, Subpart I) and applicable state regulations (N.J.A.C. 7:10), for the period from January 2013 through December 2015. In addition, the system's components used in the treatment of lead and copper were also inspected.

Environmental Protection Agency (EPA) inspectors, Stephanie Sessoms-Midgett, Kara M. Sinon, Rosa Brignoni-Tran and Amy Vinciguerra conducted the review. Representatives from New Jersey Department of Environmental Protection (NJDEP) were in attendance during the entrance and exit interviews, as well as during the plant and satellite facility tours.

Mr. Joseph Bella, Ms. Linda Pasquariello, Mr. David Prantis and Mr. Kevin Byrne provided documentation to EPA inspectors for their review.

PVWC is a large community public water system (PWS) owned by the cities of Clifton, Passaic and Paterson. The system utilizes a surface water source, provides conventional treatment and has 3 uncovered finished water reservoirs. PVWC serves approximately 350,000 people. In addition, the system also owns/operates the Little Falls Water Treatment Plant (WTP); some of the water from the Little Falls WTP is blended with finished water obtained from North Jersey District Water Supply Commission's Wanaque WTP.

After treatment, the finished water is then pumped through underground pipes to the cities of Clifton, Lodi, North Arlington (they are either owned or operated by PVWC but are not part of the PVWC 1605002 system), Passaic, Paterson, Prospect Park, a section of Woodland Park and to over 22 wholesale consecutive systems in Bergen, Essex, Hudson, Morris and Passaic Counties. Part of the finished water travels to three uncovered water reservoirs; Great Notch, Levine and New Street, and is re-chlorinated before it is served to customers.

LCR Review Components included:

1. Lead and Copper Monitoring Plan and Materials Survey, including sampling sites selected for monitoring and tier level designation.
2. Lead and copper monitoring results including chains of custody.
3. Tap sampling instructions provided to consumers.
4. Source water monitoring data.
5. Designation of Optimal Water Quality Parameters (OWQP).
6. Copies of Public Education and certifications.
7. Copies of Public Notification (if applicable) and certification.
8. Consumer notice of lead tap water monitoring results to persons served at sample sites.
9. Permits/approvals of corrosion control treatments.
10. Lead Service Line Replacement Plan.

I. Summary Findings/Observations

Based on review of routine lead and copper tap water monitoring data and information provided by PVWC staff, EPA observed the following regarding the PVWC's compliance with the LCR :

- PVWC has had multiple lead action level exceedances (ALEs) since the rule became effective in 1992.
  - ALE for both lead and copper in 1992.
  - ALE for lead 1999, 2002, 2005, 2006, 2008, 2009, 2010, 2012 & 2015.
- Historically, PVWC has relied on pH/alkalinity adjustment for corrosion control due to limitations presented by its uncovered finished water reservoirs. In 2013, PVWC completed work which included the addition of inhibitor at pump stations within certain sections of the distribution system. The system-wide application of inhibitor will not be completed fully until the uncovered reservoirs are eliminated.
- Addition of orthophosphate, as corrosion control inhibitor, presents nitrification issues in uncovered finished water reservoirs which impacts effectiveness of disinfection and increases formation potential of disinfection byproducts.
- PVWC is complying with rule requirements: providing corrosion control treatment (CCT), performing public education (PE), conducting lead service line (LSL) replacement, and ruled out "source water treatment." Historically, CCT via pH/alkalinity adjustment has been inconsistent in maintaining 90th percentile lead levels under the AL.
- PVWC completed a materials evaluation of its distribution system. According to review of the monitoring plan, sampling sites conform to the sampling requirements pursuant to 40 C.F.R. § 141.86(a)(3).
- EPA could not evaluate OWQP compliance because an OWQP range has not been designated. PVWC collects the water quality parameter data and reports averages to NJDEP on a monthly basis.
- Currently, the entire distribution system does not receive the same type of CCT. Some parts only receive pH/alkalinity adjustments while other parts receive pH/alkalinity adjustments and phosphate inhibitor.
  - In 2013, PVWC began the addition of orthophosphate inhibitor at certain pump stations.
  - Remaining portions of the distribution system will not receive benefits of inhibitor until the uncovered finished water reservoirs are eliminated, although additional inhibitor will be added in stages as reservoirs are individually eliminated.
- In 2014, NJDEP granted PVWC reduced monitoring for lead and copper. Based on PVWC's compliance history, the system did not qualify for a reduced monitoring schedule.
- In 2016, PVWC was returned to 6-month monitoring; 2016 monitoring will be used to evaluate the phosphate inhibitor's progress of coating the pipes.

- PVWC began LSL replacement in 1980. Pursuant to LCR, in 2005, NJDEP approved a LSL replacement program to replace 7% per year. Partial LSL replacement program discontinued in 2013.

II. Areas of Concern

Based on EPA's review, the following have been identified as areas of concern:

- Although not a violation, absence of state-designated OWQPs impacts PVWC's ability to demonstrate compliance with the OCCT requirements.

- Full optimization of corrosion control treatment will continue to be a challenge until PVWC eliminates the uncovered finished reservoirs. In the interim, balancing the competing treatment objectives of inhibitor application and pH/alkalinity adjustment may impact PVWC's ability to maintain both. Additionally, while EPA was not able to fully evaluate the effect of partial inhibitor application on 90^{th} percentile calculation, a question was raised about whether it may mask higher lead results in non-inhibitor portions of the distribution system.